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Consulting Engineers

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February 5, 1988

Mr. Paul Reavis
Assistant Director for
Engineering & Design Services
Boston Redevelopment Authority
Room 943 City Hall
One City Hall Square
Boston, Massachusetts 02201

Reference: Qualifications for Charlestown Navy Yard
Reconstruction of Pier 3

Dear Mr. Reavis:

Hayden-Wegman Consulting Engineers is pleased to submit our Statement of Qualifications to the Boston Redevelopment Authority to provide survey, design, engineering, and construction supervision services relating to the reconstruction of Pier 3 in Charlestown Navy Yard.

We have recently completed several waterfront projects which encompass design and environmental issues very similar to those anticipated for Pier 3. We are prepared to perform all necessary concept development, design and construction administration services required. We have assembled our project team in order to provide a level of experience commensurate with the requirements of the project.

As a Boston-based firm for fifty years, we have extensive experience in the local waterfront area. Twenty-five percent of our engineering and support staff lives in the City of Boston and contributes to the City economy and vitality. In addition, we have assembled a team of sub-consultants emphasizing local community origins and responsibility for specific technical aspects of the program.

We appreciate the opportunity to submit these qualifications, and look forward to submitting a detailed proposal to the BRA. Please contact us should you have any questions or require additional information.

Very truly yours,

HAYDEN-WEGMAN CONSULTING ENGINEERS

Donald F Dargie

Donald F. Dargie, P.E.
Senior Vice President

Hayden-Wegman, Inc., 214 Lincoln Street Boston, Massachusetts 02134 Telephone 617 254-6930
An Equal Opportunity Employer M/F

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Relevant Experience

References

Key Personnel

Primary Subconsultant Qualifications

Other Subconsultants Qualifications

Affirmative Action

References

CLIENT REFERENCES

Gordon Borek
Assistant Director for Design
& Construction
MASSPORT
Engineering Department
10 Park Plaza
Boston, Massachusetts 02116
617/973-5340

John R. Leigh
(formerly Community Development
Director, City of Gloucester
Massachusetts)
Director of Waterfront Development
Boston Redevelopment Authority
617/242-2282

Paul DiPietro
Project Manager
Metropolitan District Commission
20 Somerset Street
Boston, Massachusetts
617/727-5264

Donald N. Onusseit
City Engineer
City of Gloucester
Office of Engineering
41 Washington Street
Gloucester, Massachusetts 01930
617/283-0494

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Project Manager
MASSPORT
Ten Park Plaza
Boston, Massachusetts 02116
617/973-5500

Andrew B. DeSantis
Superintendent of Public Works
Revere City Hall
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Revere, Massachusetts
617/284-3600

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100 Cambridge Street, 19th floor
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617/727-8893

Joseph F. Casazza
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Boston City Hall
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617/725-4900

Edward D. Steward
Director
Public Works Department
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203/442-0309

John Tavares
Program Development Director
Division of Planning and Development
Lowell, Massachusetts
617/454-8821

James T. Haskell
Grants Administrator
City of Gloucester
Community Development Department
18 Dale Avenue
Gloucester, Massachusetts 01930
617/281-3008

Key Personnel

PROJECT TEAM

Hayden-Wegman has assembled an experienced team of both engineering administrators and designers with waterfront construction and environmental permitting experience to offer the proper approach and design procedures to the reconstruction of Pier 3, Chalestown Navy Yard.

Project Management/Administration will be provided by the team of Mr. Harold I. Chamberlain and Mr. Ronald H. Cheney, who together offer over 65 years of experience to project management and structural design, including waterfront structures, bridges and foundation systems. Mr. Chamberlain will be in overall charge of the project with all associated firms reporting to him.

As head of the structural design group, Mr. Cheney will be directing the efforts of the Project Engineer, Ms. Margaret J. Simmons. Ms. Simmons' significant involvement in waterfront projects during her last four years with Hayden-Wegman includes structural and site design of a dredging and docking project in Kennebunk, Maine; structural design and construciton inspection of the Bulkhead Repair and Wharf Construction Project at Harbor Cove, Gloucester as well as structural design of the Lynn Commercial Fish Pier.

Assisting us as primary associates in this project will be HMM Engineers Inc., whose team headed by T. Andre Bover, will perform the environmental phases including permitting and assist with the development issues of the pier extension. Mr. Bover from his previous employment with Hayden-Wegman, has extensive experience in our methods of operation, which will facilitate the coordination of the project.

Responsibility for specialized services will be assigned to the Boston firms of Asaf A. Qazilbash and Associates, of Hyde Park, Massachusetts, which will perform geotechnical (MBE) engineering, laboratory testing, subsurface investigations and address any hazardous waste problems; Regina Villa, Associates (WBE) which will deal with public participation and community liaison matters; and ASEC Corporation (MBE) which has agreed to perform survey services.

HAROLD I. CHAMBERLAIN
Vice President - Civil Engineering

EDUCATION

Associate Degree Civil/Structural Engineering, Lincoln Technical Institute, 1953
B.S. Business Administration and Engineering Management, Northeastern University, 1957

REGISTRATIONS

Professional Engineer in Connecticut and Massachusetts
Certified Construction Specifier
Certified Construction Inspector

JOINED OUR STAFF

1947

PROFESSIONAL EXPERIENCE

Mr. Chamberlain has over 35 years of civil engineering experience in all phases of transportation, wastewater and waterfront facilities development. He has extensive expertise in feasibility studies, environmental impact reports, public presentations and contractor negotiations and arbitrations.

Mr. Chamberlain also has been involved in the following major projects:

- design and construction drawings and specifications for eight piers and docks at the Boston Naval Shipyard; and
- project manager for inspection and rehabilitation of 10 bridges for the Connecticut Department of Transportation under the Emergency Bridge Inspection Program;
- project manager for relocation of six miles of Route 7, Brookfield--New Milford, Connecticut, which included seven bridges and several box culverts;
- project manager of the widening and rebuilding of the New Jersey turnpike from 6 lanes to 12 lanes in Newark, New Jersey;
- design of Route I-195 limited access highway and diversion of the Quequechan River including 96" pressure conduit gate structure and intake, Fall River, Massachusetts; and

---

design and construction supervision of the 1.5 MGD treatment plant, interceptors and laterals for Wells, Maine. The $20 million program extended over a period of several years and required several harbor crossings and design of facilities in coastal areas.

SOCIETIES	Construction Specifications Institute

RONALD H. CHENEY
Vice President/Structural Engineering

EDUCATION

Associate Degree Structural Engineering Franklin Technical Institute, 1956

Associate Degree Structural Engineering Lowell Institute School (MIT), 1958

REGISTRATIONS

Professional Engineer in Connecticut, Massachusetts and Rhode Island

JOINED OUR STAFF 1955

PROFESSIONAL EXPERIENCE

Mr. Cheney has nearly 30 years of experience in all aspects of structural engineering, including dams, sewage treatment plants, pumping stations, bridges, viaducts, highways, foundations, buildings, piers and bulkheads.

Mr. Cheney has been project director for the following:

- Hoosac Pier substructure investigation, preliminary and final design, construction documents, cost estimates and construction supervision;

- Fish Pier, Building No. 4 substructure investigation including site condition survey, preliminary and final designs, construction documents, cost estimates and construction supervision;

- Commonwealth Pier, substructure investigation including structural and substructural investigations, repair recommendations and cost estimates;

- Diversion structure and disinfection/screening facility designs for Constitution Beach CSO in East Boston, Fox Point and Commercial Point in the Dorchester area of Boston all for the MWRA; and

- Mr. Cheney managed the design of four sewage treatment plants varying in size from 10 MGD to 50 MGD capacity. These designs included reinforced concrete holding tanks and pipe tunnels, steel frame facility buildings and concrete foundations. Mr. Cheney's related experience also includes responsibility for the design of more than 15 sewage pump stations, all of reinforced concrete, with construction costs ranging from $750,000 to over $7,000,000.

Mr. Cheney has also been responsible for the inspection and evaluation of 60 dams for the U.S. Army Corps of Engineers, including structural investigations, repair/rehabilitation design and cost analysis. He has designed over 12 major highway projects in 5 states. His design responsibilities included approximately 150 bridge structures including viaducts of several hundred feet or more. Construction types for these projects varied from composite steel girders of simple, continuous, straight, curved and box girder designs, to precast, prestressed and cast-insitu post-tensioned concrete box structures. Foundations varied from spread footing to piles, both friction and end bearing. He was also responsible for the design of several thousand feet of retaining walls, between 6 and 36 feet high, from cantilever concrete to gravity concrete supported on undisturbed soil, rock or piles.

SOCIETIES American Concrete Institute

MICHAEL J. ANGIERI
Associate - Civil/Environmental

EDUCATION	B.S. Civil Engineering, Northeastern University, 1971 M.S. Civil Engineering, Northeastern University, 1978
REGISTRATIONS	Professional Engineer in Massachusetts, Connecticut, Rhode Island, and New Hampshire Registered Sanitarian in Massachusetts Licensed Construction Supervisor in Massachusetts
JOINED OUR STAFF	1978

PROFESSIONAL EXPERIENCE

Mr. Angieri's 17 years of experience covers a broad range of civil and environmental engineering projects. He has been responsible for all phases of project development feasibility reports, facility planning, preliminary and final design and construction management for municipal and private clients. Due to the complexity of these projects, significant contact with town, city and federal agencies, conservation and environmental organizations was necessary to address applicable concerns, and to ensure orderly progression and timely completion.

Representative assignments include:

- Project engineer for the Constitution Beach and the Fox Point and Commercial Point CSO projects, his responsibilities encompassed hydraulic analysis, facility design, permitting, and public participation program presentations;
- Project manager for the planning, design, permitting and public presentations for a solid waste transfer station in Hebron, Connecticut;
- Project manager for the MDC Revere Flood Study and Pumping Station report for a 2,300 acre drainage basin;
- Project manager for a water quality impact assessment for extending a runway at Barnstable Municipal Airport, involving extensive ground and surface water sampling, evaluation of alternative drainage systems improvements, permitting, and recommendations for a monitoring program;

- Project engineer for water system improvements in Waterford and Simsbury, Connecticut; included computer analysis of existing water system leading to recommendations for improvement;

- Responsible for several landfill site investigations and wastestream analysis for regional areas and municipalities including the evaluation of eight potential landfill sites for the MDC/CRRA Mid-Connecticut project and preparation of reports on the capacity, waste characterization and environmental impacts of each site;

- Investigation of a 12-acre industrial site in the Boston area to determine the impacts of past chemical handling and disposal techniques on possible reuse of the site. Involved an inventory of chemicals and disposal methods, which included obtaining soil, water and sludge samples for analysis; developed and recommended alternatives for remedial action in concert with permitting requirements.

- Analysis of wastewater disposal systems at Pondville Hospital and Norcap Lodge leading to improved operation and NPDES permit applications.

- Analysis of three existing wastewater pumping stations for Middlebury, Connecticut leading to the design of improvements.

- Analysis of on-site disposal effluent system and design of wastewater treatment facilities for a 96 condominium project.

SOCIETIES

Water Pollution Control Federation
New England Water Pollution Control Association

MARGARET J. SIMMONS
Civil Engineer

EDUCATION

B.S. Civil Engineering, Union College, 1983
M.S. Structural Engineering, Northeastern University in progress

JOINED OUR STAFF

1983

PROFESSIONAL EXPERIENCE

Ms. Simmons recently completed the design of Bridgewater Street Bridge over Lobster Cove, a timber pedestrian bridge in Gloucester, MA. The bridge spans a navigable cove and required extensive environmental permitting. She has also prepared design plans for bridge replacement and approach highway reconstruction for the Towns of Easthampton, Sudbury-Wayland, Spencer and Auburn for the Massachusetts Department of Public Works.

She served as Project Engineer for the complete structural and site design of Fish Passage Facilities on the Charles River and the Dredging and Docking Facilities Project in Kennebunk, Maine. She has completed the structural design and construction inspection of the Bulkhead Repair and Wharf Construction Project at Harbor Cove in Gloucester, Massachusetts.

Recently, Ms. Simmons completed the layout, environmental permitting and design of commercial vessel docking systems at two sites for the City of Gloucester.

Ms. Simmons has been involved in a variety of projects including reinforced concrete footing design, drainage system modifications, and sanitary sewer line replacement. Lynn Commercial Fish Pier, which involved extensive waterfront structural design considerations, was one of Ms. Simmons' major design projects. She has been involved in the design of several projects, including Market and Behen Streets in Everett, and Hingham Industrial Access Roadway, in Massachusetts.

Ms. Simmons has performed construction inspection for recent projects. For the Gloucester Harbor Cove Wharf, she served as Resident Engineer, performing inspection of the timber pile wharf construction, steel sheet piling retaining wall installation, and site work. Recently, Ms. Simmons oversaw the construction of a parking lot at the Seafood Industrial Park for the City of Gloucester.

For the Hingham roadway and drainage project, Ms. Simmons was also involved in consultation with the resident Engineer to overcome difficult field conditions, and performed final roadway inspection.

She also has experience in developing construction cost estimates and specifications to accompany bid packages. Prior to joining our staff, she was part of a structural design team responsible for the beam, column and foundation design project for a multi-story structure on the campus of Union College in Schenectady, New York.

SOCIETIES	American Society of Civil Engineers Boston Society of Civil Engineers

Primary Subconsultant Qualifications

CIVIL ENGINEERING SERVICES

HMM ASSOCIATES INC.

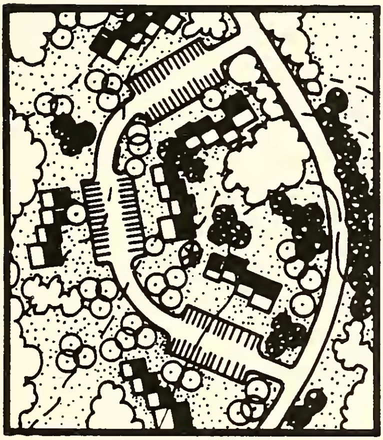
ENGINEERS, ENVIRONMENTAL CONSULTANTS & PLANNERS

336 Baker Avenue • Concord • Massachusetts 01742 • (617)371-1692

HMM SERVICES IN

LANDSCAPE ARCHITECTURE & LAND PLANNING

HMM provides design and technical consulting services for projects in both the private and public sectors. Our professional and support staff are qualified to address all aspects of the design and development process; from the land survey and site analysis to the final construction phase of the project. Our staff has expertise in landscape architecture, environmental analysis, permitting, civil engineering and traffic engineering. This collaboration of diversified experience results in a finished product, which satisfies the client's needs, is designed with aesthetic and environmental sensitivity, and is completed in a timely manner.



SERVICES MAY BE PROVIDED FOR:

- *PARKS AND RECREATIONAL FACILITIES*
- *HOUSING*
- *COMMERCIAL AND OFFICE DEVELOPMENTS*
- *INDUSTRIAL PARKS*
- *STREETSCAPE DESIGN*
- *PRIVATE RESIDENTIAL DESIGN*

REPRESENTATIVE PROJECTS :

- *RESIDENTIAL TOWNHOUSE DEVELOPMENT IN LANCASTER, MA.*
- *WETLANDS REPLICATION AND PLANNING DESIGN IN CAMBRIDGE, MA.*
- *COURTYARD DESIGN FOR CONDOMINIUM PROJECT IN CONCORD, MA.*
- *OFFICE BUILDING SITE DEVELOPMENT IN CONCORD, MA.*
- *RESIDENTIAL AND COMMERCIAL MASTER PLAN DEVELOPMENT IN VERMONT*
- *OFFICE BUILDING SITE DESIGN IN CANTON, MA.*

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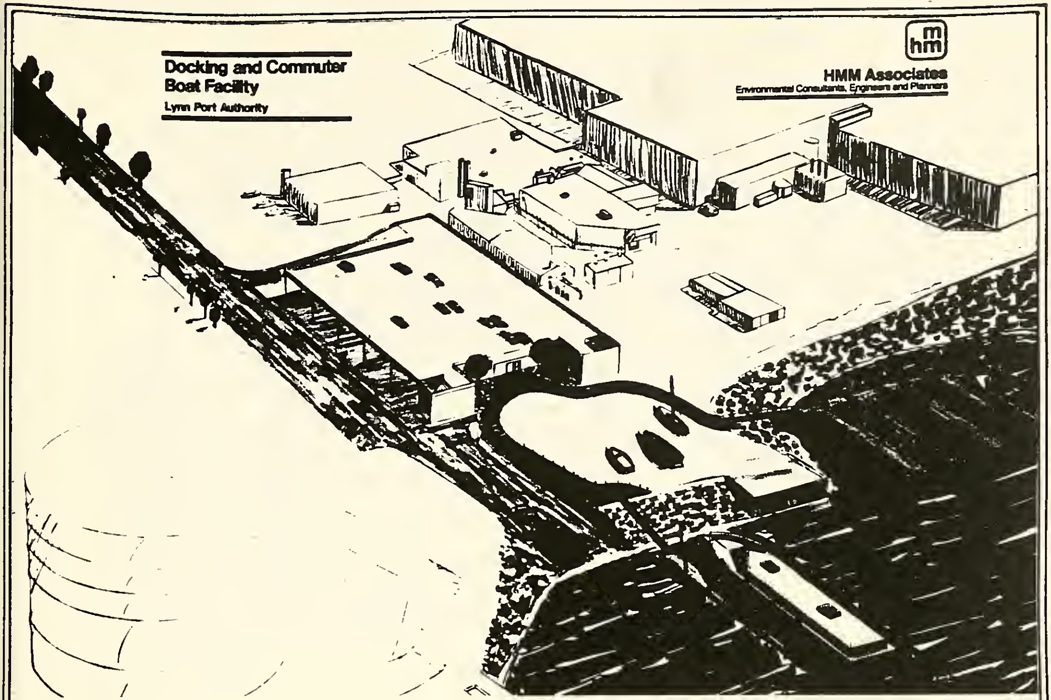
HMM ENGINEERS INC.

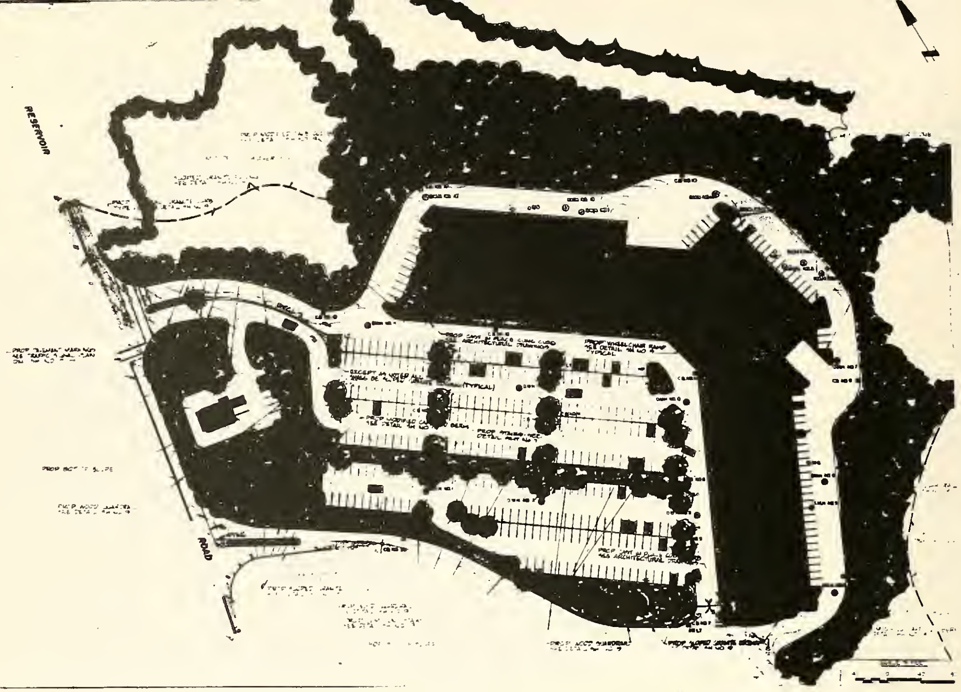
336 Baker Avenue • Concord • Massachusetts 01742 • (617)371-1692


Docking and Commuter Boat Facility
Lynn Port Authority
HMM Associates
Environmental Consultants, Engineers and Planners

PORT FACILITY

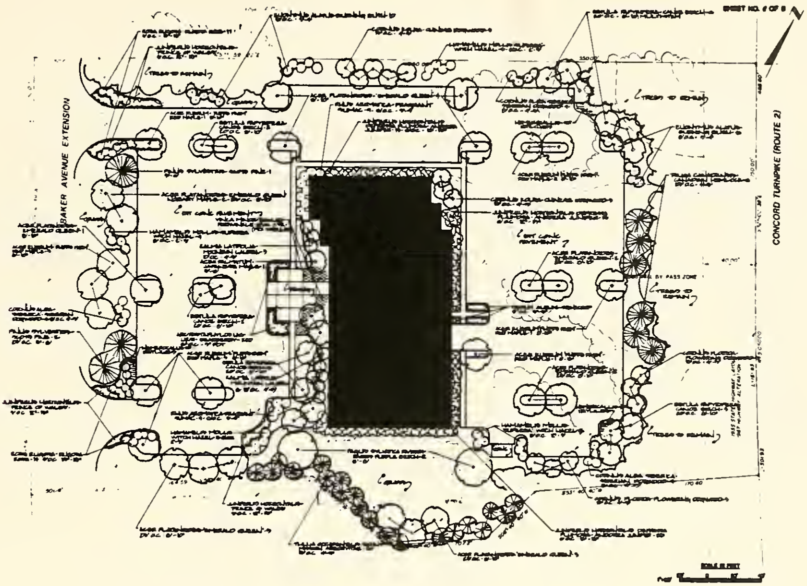
This waterfront facility is presently in the planning stage. HMM is assisting the Lynn Office of Economic Development in the preparation of conceptual designs and permits necessary to gain permit approval for the project.

Under the present development plan this facility will provide for commuter parking, a water transportation terminal, docking for commercial vessels, off loading facilities and public access and user amenities. This facility is envisioned to provide transport of labor and materials for the construction of the Deer Island Primary Treatment Plant, commuter options from the North Shore to Boston and opportunity to the public for deep sea fishing and excursion cruises.



COMMERCIAL DEVELOPMENT

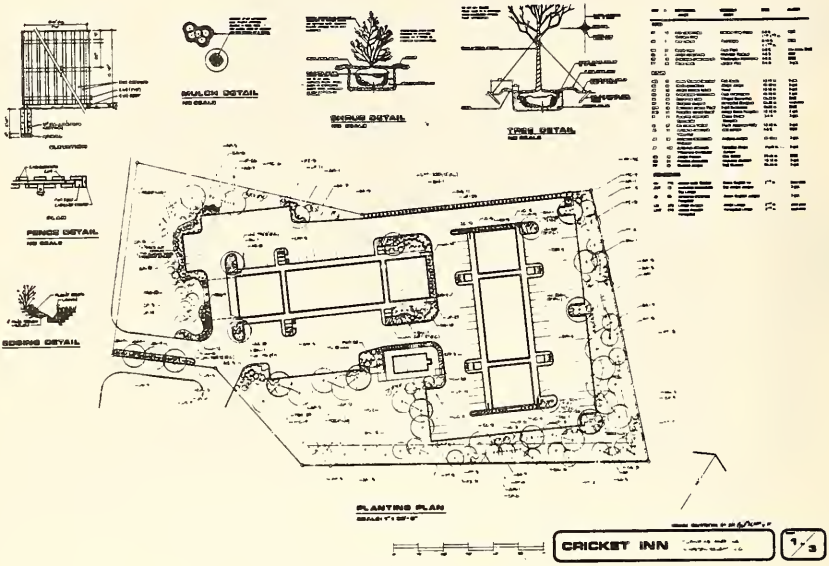
HMM was contracted by the Scola Development Group to provide professional services for the development of this 90,000 square foot shopping center. Services provided included environmental studies and site engineering. HMM prepared the necessary ENF and subsequent EIR including wetland, utility, hydrology and traffic impacts. Site design services included general grading, parking lot layout and water, sewer and drainage systems. As part of the traffic mitigation measures, HMM also provided design services for traffic signals at the main drive and intersectional improvements including new signals at an adjoining major downtown intersection.



BAKER AVENUE OFFICE BUILDING

Concord, Massachusetts

HMM, in affiliation with the architectural firm of Jung/Brannen Associates, Inc., prepared the schematic drawings for the development of a 51,000 square foot office building along Route 2 in Concord, Massachusetts. This professional office building was designed as a 3-story structure with an atrium-entry. The project involved locating the building on the property and providing 200 parking spaces, while still maintaining existing vegetation and providing visual buffers along Route 2. The planting plan was designed to enhance the naturalistic setting typical of the surrounding area, as well as creating an attractive environment for the office building and its occupants.



COMMERCIAL DESIGN

The above planting plan, designed by Lorayne Algren while at Robinson, Sorensen and Associates, is for an inn in Richmond, Virginia. The design was to create seasonal interest from both within the site and from the guest rooms. Sun angles were taken into consideration for shading within the parking areas, and screen plantings were located in certain areas to filter unattractive views of adjacent buildings. Focal points, such as the entrance and the pool, were highlighted with colorful and interesting plant materials.

ENVIRONMENTAL IMPACT REPORT SERVICES

HMM ASSOCIATES INC.

ENGINEERS, ENVIRONMENTAL CONSULTANTS & PLANNERS

336 Baker Avenue • Concord • Massachusetts 01742 • (617)371-1692

ENVIRONMENTAL IMPACT STUDIES

HMM Associates prepares complete environmental impact studies in response to federal, state and local regulatory requirements for public and private projects. Federal requirements typically result from projects undertaken by, funded by or regulated by the Federal Highway Administration (FHWA), Environmental Protection Agency (EPA), and Corps of Engineers (COE). These include Environmental Impact Statements (EIS) and various permit requirements. State regulations that HMM staff have worked with include Massachusetts, New Hampshire, and Rhode Island. HMM is active in all New England states in the area of environmental engineering and permitting. Local municipalities have also become increasingly active in project review, requiring environmental studies varying from wetlands analyses to design review.

In general environmental impact studies involve predicting changes associated with project development. Predictive techniques may range from subjective professional judgement to sophisticated simulation modeling using testing equipment and computers. Successful projects must demonstrate compliance with applicable regulatory thresholds or be able to provide adequate mitigating measures. HMM Associates has a highly trained staff of scientists, technical experts, planners and professionals specializing in the entire range of environmental issues now being addressed. The subject matter of impact studies vary with the type of project and level of sophistication required by the regulatory agency. These are described below:

- Transportation Engineering and Planning Services

  HMM has extensive experience in providing transportation planning and engineering services to both private and public sector clients. Specialized services are provided to effectively deal with transportation design and operational issues associated with real estate developments, commercial and industrial expansions, and transportation improvement projects of widely varying size and scope. HMM's transportation engineers have broad-based experience and capabilities in providing transportation and traffic-related services including:

  - Traffic operations analysis;
  - Traffic flow simulation modeling;
  - Development of traffic circulation plans and analysis of traffic control warrants for project sites;

- Expert testimony;
- Transportation corridor planning studies;
- Highway safety analysis;
- Transportation/traffic computer software development; Preliminary traffic control design, including system specifications and cost estimates;
- Evaluation and development of transportation systems management programs for existing facilities;
- Parking studies;
- Truck circulation and routing analyses; and
- Preparation of curb-cut permits.

- Wetlands - When project development, water quality or drainage impacts affect wetland areas, the mitigation of impacts is especially critical. HMM is very familiar with wetland identification techniques and the federal, state and local requirements protecting these areas. Our staff of botanists, ecologists, and engineers is experienced in evaluating wetland resource value impacts and developing permitting strategies.

- Water Quality - HMM Associates has analyzed water quality impacts of projects as diverse as major pulp and paper mill expansions to urban developments. After characterizing pollutants and existing water quality, potential impacts on receiving waters (groundwater or surface) are evaluated using on-line computer models. Pollutants analyzed range from organic chemicals and heavy metals in landfill leachate, coalpile runoff, or industrial waste water to petroleum derived hydrocarbons and nutrient contaminants in urban run-off.

- Drainage - The effects a project may have on drainage patterns and peak storm-related discharges may include increased storm water run-off rates and volume, redirection of drainage, and changes to the water table groundwater recharge capacity. Based on hydrographic analysis and inflow-outflow modeling, HMM defines these impacts and designs mitigating measures. These features may include retention ponds and control structures. HMM Associates also assists clients in the development of soil conservation measures to stabilize site areas during and after construction.

- Terrestrial Ecology - Identification of vegetative types and forest resources.

- Air Quality Services

  HMM has extensive experience in a wide range of air quality activities. These technical areas include:

  - State air pollution and PSD permits for industrial sources;
  - BACT analysis and control technology design;
  - GEP stack design;
  - Cooling tower impact analysis;
  - EIS studies for new transportation and mixed-use development projects;
  - Training courses in meteorology and control technology; and
  - Dispersion modeling for mobile and stationary sources

- Noise and Vibration Analysis and Control

  HMM Associates offers a full range of services in the prediction, measurement, analysis and control of noise and vibration as well as providing expert testimony. In the last few years, HMM has completed noise assessment studies and noise-control designs for projects such as: mechanical-equipment noise control design for a college classroom building; assessment of noise impacts from a resource recovery plant; and, analysis of the noise impact from a proposed helicopter landing pad.

- Waste Management

  HMM's capabilities encompass all aspects of liquid and solid waste management. Areas of expertise include: Hazardous, non-hazardous, toxic and radioactive wastes. Specifically, HMM's waste management experience includes:

  - Waste inventories and characterization;
  - Volume reduction and disposal options;
  - Regulatory agency liaison and licensing;
  - RCRA and TSCA compliance;
  - Recycling and marketability analyses;
  - Disposal site selection;

- Landfill leachate monitoring programs;
- Site/system engineering;
- Groundwater and surface water monitoring;
- Permitting for resource recovery and mass burning plants;
- Operational procedures manuals; and
- Landfill closure planning.

- Wind Studies

  HMM subcontracts with the Boston University College of Aeronautical Engineering to conduct wind tunnel tests to determine the impact of high rise development on pedestrian level wind. Normally these tests are appropriate for dense urban settings where tall buildings contribute towards increased gustiness. These typically involve flow visualization of a scale model in a wind tunnel and hot wire anemometer tests to predict actual wind speeds for both mean winds and gusts for each season.

- Shadow Impact

  Also intended for downtown areas where tall buildings create shadows, HMM has developed a technique to predict shadows for summer and winter solstices, spring and fall equinoxes and for 9:00 AM, Noon and 3:00 PM. Build and no-build conditions are compared.

- Historic and Archaelogical Studies

  HMM can provide, both with in-house staff and sub-contracted specialists if needed, studies to determine impact on historic properties, National Register Districts, local historic zoning districts and archaelogical resources. These studies include 4(f) and 106 reports to meet FHWA requirements.

- Land Use Planning - Land use surveys and mapping; compatibility with comprehensive plans; zoning ordinances; subdivision controls; site planning; and review procedures.

- Socioeconomic Studies - Attitude surveys, census data analysis; social and economic profiles; tax base analysis; cost/benefit assessment; and evaluation of labor supply with resultant and related community requirements associated with construction and operational period work force.

Although many firms offer environmental consulting services, HMM's continued growth is largely the result of strong technical capabilities coupled with ensuring that clients' expectations are fully satisfied. The majority of HMM's assignments are for repeat clients or are based on referrals from existing clients.

HMM's staff of over 50 professional and support employees occupy 12,000 SF of attractive office space in an HMM-owned building in Concord, Massachusetts. Facilities include large conference rooms; a word processing center equipped with a five-station WANG OIS system and high speed printers; a technical library; high speed Xerox copying equipment; a graphics area and engineering drawing reproduction equipment.

Computer facilities include IBM PC's, several other PCs and a time-sharing link with Wang's Burlington, Massachusetts computing center. HMM's complete inventory of air quality dispersion, traffic and noise models is available on the time sharing system. Air quality screening models and a wide range of other models and computational programs are available on the IBM PCs.

HMM owns a complete inventory of equipment and monitoring devices commonly used in our work. This equipment includes automatic traffic counters, sound level meters and frequency analyzers, an organic vapor analyzer, and a variety of survey and sampling gear.

The following pages include lists of recent projects that HMM has undertaken in the areas of Environmental Impact Reports, Wetland Studies and Transportation Projects. Following that are resumes of key individuals from the firm.

ENVIRONMENTAL IMPACT REPORT SERVICES

PURSUANT TO THE MASSACHUSETTS ENVIRONMENTAL POLICY ACT

PROGRAM DESCRIPTION

The Massachusetts Environmental Policy Act (MEPA) establishes guidelines for review of projects considered to have the potential for significant environmental impact. The MEPA process involves thresholds, a procedure, and a time-table for a two-level review process. An Environmental Notification Form (ENF) summarizes project information to determine whether additional analysis of project impacts is required. If so, an Environmental Impact Report (EIR) is prepared which responds to concerns outlined by MEPA.

The MEPA process acts as a clearinghouse for project information which is available to reviewing agencies as well as the public. Lengthy public comment periods and the requirement to close the MEPA process before beginning construction allows design concepts and details to respond to the needs and concerns of other permit-issuing agencies and interested parties.

HMM SERVICES

HMM Associates has successfully completed more EIRs than any other consulting firm in the state. Our expert project managers have many years of experience with the MEPA process and effectively coordinate multi-disciplinary project teams to address the wide range of environmental concerns that may fall within MEPA jurisdiction. HMM Associates has a highly trained staff of scientists, technical experts, engineers, planners, and professionals specializing in the entire range of environmental issues, including:

- Transportation
- Drainage, Wetlands and Water Quality
- Air Quality
- Noise
- Sewerage and Water Supply
- Historic Resources
- Wind
- Shadows
- Aesthetics/Design
- Construction Impacts

The ability to provide these analyses in-house results in a comprehensive evaluation of impacts well within established time and budget constraints.

HMM's strong management capabilities frequently result in an assignment to act as the lead consulting firm for complicated projects, where several sub-consultants are involved. This ability to guide technical experts, whether in-house or from another firm, is one of HMM's strongest assets. It results in the presentation of technical information in a clear and concise format that satisfies MEPA's concerns regarding impact to the environment.

HMM ASSOCIATES WETLAND SERVICES

WETLAND IDENTIFICATION AND CLASSIFICATION

HMM offers a broad base of experience in the identification and classification of wetlands. Our professionals are familiar with the Federal and State Regulations governing wetlands. ***We can help you ensure compliance with these regulations.***

Using the revised Massachusetts Wetlands Protection Act Regulations, **HMM** can identify your Coastal Wetlands and Freshwater Wetlands.

In addition, **HMM** can classify your wetlands using the National Wetlands Inventory and in accordance with the U.S. Fish and Wildlife Wetlands Classification system.

- Marine
- Estuarine
- Riverine
- Palustrine
- Lacustrine

WETLAND ASSESSMENT

Using state-of-the-art techniques and methodologies, our professionals assess the quality of wetland resources and evaluate wetland functions. This serves as a valuable tool for decision-makers by providing current and projected values of a wetland for such key functions as:

- Groundwater Recharge and Discharge
- Flood Storage and Shoreline Anchoring
- Sediment Trapping and Nutrient Retention
- Food Chain Support
- Fishery and Wildlife Habitat
- Active and Passive Recreation

WETLAND ENHANCEMENT AND CREATION

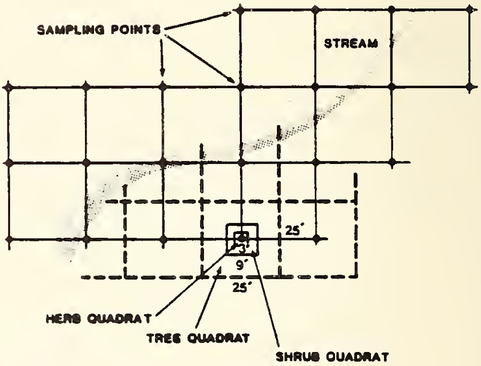
Our professionals conduct diagnostic and feasibility studies for the restoration and creation of water resources. We assess the situation, define methods and procedures for controlling sources of pollution, determine cost effective procedures for enhancing and preserving resources, and develop a preservation or rehabilitation program designed specifically for each individual wetland area.

WETLAND BOUNDARIES DELINEATION AND MAPPING

To help you apply the Massachusetts Wetlands Regulations **HMM ASSOCIATES**, has developed methods for defining the edge of vegetated wetlands. These methods are designed to quantify vegetative species mix and locate the point where 50% or more of the vegetative community consists of the wetland indicator species identified in MGL, Chapter 131, Section 40.

Quadrat Method

This is a systematic, detailed documentation of vegetative associations and community boundaries. Sampling point stations are located on a grid system. Transects are established at 25 foot intervals and the data itemized below are recorded.



Transect Method

In areas that do not warrant as high a level of detail as the Quadrant Method a straight transect is plotted. All vegetation within 10 feet of the transect line is recorded at 25 foot intervals along the line.

Mapping

Information provided through the application of these methods allows detailed mapping of wetland areas and provides a clear definition of the wetland boundary. Our biologists and engineers have successfully identified and mapped resource areas for acceptance by area conservation commissions.

HMM ASSOCIATES AQUATIC ECOLOGY SERVICES

HMM SERVICES

HMM provides consulting services to meet stringent laws and regulations governing development and modification in freshwater, estuarine, and marine aquatic environments. Environmental studies are tailored to the schedules, site characteristics, and applicable regulatory requirements of each project. The studies are designed to focus on key issues of environmental sensitivity. Regulatory activities for which HMM provides environmental analyses include the following:

- Permits under Section 404 of the Federal Water Pollution Control Act Amendments of 1972 to discharge dredged or fill material into waters of the United States.
- License required under G.L. Chapter 91 to authorize placement of structures and fill, changes in use of existing licensed structures and fill, and dredging in state waterways.
- Permits granted under the River and Harbor Act of 1899 for construction of dams, dikes, or other obstructions or alterations of any navigable waterway.
- Permits under Section 103 of the Marine Protection, Research, and Sanctuaries Act for the transportation and dumping of dredged material in ocean waters.

PRIMARY CAPABILITIES

HMM provides aquatic ecological preparation of Environmental Impact Statements and Reports pursuant to the National and Massachusetts Environmental Policy Acts. HMM also prepares Environmental Assessment Reports for proposed projects affecting the freshwater, estuarine, and marine environments. These assessments can include permitting, findings of no significant impact (FONSI), and Statements of Compliance.

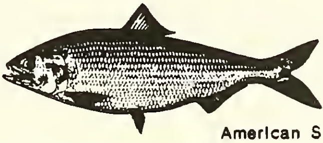
HMM PERSONNEL AND EXPERIENCE

HMM's staff includes over 85 engineers, planners, ecologists, environmental scientists, and support personnel. HMM's professionals have a broad base of experience in the environmental sciences. Expertise includes the following:

- Collection, Analysis, and Reporting of Biological and Physical/Chemical Water Quality Data
- Significant and Critical Habitat Evaluation
- Status Review of Estuarine and Riverine Fishery Resources
- Coastal Zone Consistency Evaluations

HMM's experience with assessment of various aspects of aquatic ecosystems includes the following studies:

- **Cape Arundle and Foul Area Disposal Sites Designation Study** -- HMM participated in oceanographic field studies at disposal sites off the coasts of Massachusetts and Maine for water quality, sediments, benthic organisms, finfish, and related parameters and prepared evaluations for the Site Designation Document.
- **Connecticut River Study, Hartford, CT to Holyoke, MA** -- HMM conducted an environmental inventory of significant fishery/aquatic resources including identification of the following: coldwater, warmwater, and anadromous fish species; state/federal management programs including stocking efforts; important spawning, nursery and riffle/pool habitats; commercial fishing harvesting areas and annual landings; and state angling laws and significant recreational fishing areas.
- **Coastal Flood Protection Study, Saugus River and Tributaries** -- HMM conducted a detailed biological, land use and hydrology study related to flood protection alternatives in a tidal estuary. Studies included analyses for 404 and NPDES permits, evaluation of existing finfish and shellfish resources, review of shellfish harvesting regulations, and determination of possible marine mammal usage of the area.



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HMM ASSOCIATES INC.

HABITAT EVALUATION SERVICES

METHODOLOGY

There are 21 recognized methods for evaluating terrestrial and aquatic habitat quality. These methods are typically used for evaluating habitats in highly localized areas. Key characteristics of these various habitat evaluation methods are as follows:

- Conduct inventories of key habitat components or factors.
- Evaluate habitat quality for a broad spectrum of wildlife and a variety of land uses.
- Integrate habitat quantity and quality into an acre-habitat value.
- Do not relate habitat quality to a particular wildlife species or group of species.
- Focus on the habitat of a few, highly selected wildlife species.
- Incorporate a supply-demand analysis of wildlife habitat.
- Identify key attributes of wildlife habitat considered in the evaluation process.
- Analyze habitat through the recognition of patterns of environmental conditions.

HMM PERSONNEL AND CAPABILITIES

HMM Associates has a staff of over 85 engineers, planners, ecologists, certified wildlife biologists, environmental scientists, and support personnel. HMM's professionals are familiar with these different habitat evaluation methodologies and have applied selected procedures throughout the Eastern United States.

HMM routinely identifies and evaluates terrestrial and aquatic habitats with special emphasis on significant and critical habitats, including the following:

- Rookeries and Raptor Nesting Sites
- Deer Wintering Yards
- Denning Areas
- Early and Mature Vegetation Stages
- Wetlands
- Fish Migration Routes
- Fish Spawning and Nursey Areas
- Anadromous Fish Stocking and Restoration Sites

These services are conducted for environmental impact assessment and the evaluation of potential impacts of project alternatives to ensure regulatory compliance with applicable Federal, State, and local regulations. For environmental studies requiring habitat evaluation, assessment of potential impacts and evaluation of amelioration measures, HMM follows a procedure involving a data gathering phase, data integration phase, and a field investigation phase. This approach has been successfully utilized for major development and water resource projects.

HMM EXPERIENCE

- **Route 2/Alewife Brook Parkway Project** -- HMM identified areas of sensitivity at a project location where efforts were directed to improve the transition between two roadways. Analyses included evaluations of the type and quality of wetland habitat areas, assessment of potential impacts, and development of amelioration methods.

- **Coastal Flood Damage Reduction Study, Saugus River and Tributaries** -- HMM conducted an environmental reconnaissance of the Saugus and Pines River related to flood protection alternatives in a tidal estuary. Studies included detailed field assessments of area wetland habitats and resources, fishery and wildlife habitats along each of the proposed alignment locations.

COASTAL AND WATERFRONT SERVICES

HMM SERVICES

HMM Associates provides consulting services in a wide range of scientific and technical skills well suited to performing coastal and waterfront area evaluations. Our staff has extensive experience in geological, biological, and hydrological process evaluations, local and regional environmental impact assessments, and federal, state, and local regulatory permits. Regulatory programs for which HMM provides coastal evaluations and permit preparation services include the following:

- Chapter 91 Waterways Licensing Administered by the Massachusetts Department of Environmental Quality Engineering (DEQE), Division of Wetlands and Waterways Regulations
- Water Quality Certification Administered by the DEQE, Division of Water Pollution Control
- Wetlands Protection Act (MGL Chapter 131, Section 40) and the Coastal Regulations Administered by the Local Conservation Commission and the DEQE
- Massachusetts Coastal Zone Management Consistency Certification for Complying with Policies of the Coastal Zone Management Program (301 CMR 20.05(3))
- Section 404 of the Federal Water Pollution Control Act Amendments of 1972 Administered by the Army Corps of Engineers (COE)
- Section 10 of the River and Harbor Act of 1899 Administered by the COE

HMM PERSONNEL AND CAPABILITIES

HMM staff includes over 85 engineers, planners, ecologists, environmental scientists, and support personnel. HMM's professionals have a broad base of experience in the environmental sciences. Expertise in coastal and waterfront assessments and process evaluations, as well as impact and design studies for coastal environments includes the following:

Identification of Specific Coastal Features, Zones, and Marine Resources

- Offshore, Nearshore, and Beach Zone, including Intertidal Zone, Beach Slope, and Beach Face
- Dune Form, Location, and Orientation, Sand Transport
- Barrier Beaches, including Inlet Dunes, and Overwash Fans
- Estuary and Harbor Zones
- Vegetated Coastal Wetlands Identification
- Status Review of Coastal Estuarine and Marine Fishery and Shellfish Resources

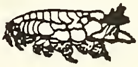
Development of Basic Data

- Storm Surge and Floodplain Evaluation
- Sediment Budget Analysis
- Sediment Size, Composition, and Compatibility Analysis
- Compilation and Assessment of Historical Data, Charts, Maps, and Aerial Photographs
- Collection, Analysis, and Reporting of Biological and Physical/Chemical Water Quality Data

Impact and Design Studies

- Building Design and Impact Studies
- Recreational Facilities and Access Studies

Horse Mussel



Sand-Dwelling Amphipod

Selected Experience Coastal Area Evaluations includes:

- **Lewis Bay, Hyannis, MA** -- HMM performed coastal wetland mapping and evaluations for bank, dune, and beach environments and prepared a Notice of Intent under the Wetland Protection Act and local by-laws as part of permitting assistance for a residential development.
- **Coastal Flood Damage Reduction Study, Saugus River and Tributaries** -- HMM conducted a detailed environmental reconnaissance of the Saugus and Pines Rivers related to flood protection alternatives in a tidal estuary. Studies included analyses for 404 and NPDES permits, an inventory of existing wetland environments and potential special aquatic sites, and evaluation of existing finfish and shellfish resources.

HMM ASSOCIATES

MASSACHUSETTS EIR PROJECTS

PROJECT	CLIENT
Route 128 Expansion: Roadway expansion totaling 14 miles. Responsibilities include preparation of a joint EIR/EIS addressing air quality, water quality, noise, terrestrial and aquatic ecology.	Sverdrup Corporation, Mass. DPW Boston, MA
Route 2/Alewife: Wetlands, air quality and ecology impacts associated with roadway improvements.	Fay, Spofford & Thorndike Mass. DPW Boston, MA
9/90 Crossing: A 1,500,000 square foot office and hotel development located on a former landfill site in Framingham, MA. Issues include: traffic, water quality, wetlands, groundwater, and impacts.	Macomber Development Co Boston, MA
Lowell Waste-to-Energy Project: A 1500 TPD cogeneration facility located on a former ash disposal site. Responsibilities include preparation of the DEIR, FEIR and all permits in association with Alternative Resources, Inc.	American Ref-Fuel, BFI Houston, TX
World Trade Center: A 2 million SF office, retail, parking and trade complex located in Boston's fast growing South Boston waterfront. Key issues include transportation, urban design and infrastructure needs.	World Trade Center Boston, MA
Prudential: HMM is the environmental consultant for the 1.1 billion redevelopment of the Prudential Center in Boston.	Prudential R.E. Boston, MA
Lewis Wharf: A multi-use development on Boston's waterfront. Key issues include traffic, water quality and land use (public/private tidelands - Chapter 91 license).	Carl Koch Boston, MA
Nantucket Electric Company: Nantucket Electric is proposing additional capacity of 3.7 MW using diesel or gas turbine generators on a new site. Issues addressed in the EIR include air quality, groundwater protection, noise, fuel delivery, ecological impacts, and long-range plans.	Nantucket Electric Co. Nantucket, MA
One Twenty Five High Street: HMM prepared the EIR for the 1.4 million SF project proposed for the Travelers Insurance site in downtown Boston. The EIR covered air quality and sewer impacts. Separately, an environmental assessment was prepared for the Boston Redevelopment Authority covering traffic, wind, shadows, construction activities, historic properties, and visual impacts.	Spaulding & Slye, Prospect Cambridge, MA - Hartford,

MASSACHUSETTS EIR PROJECTS (Cont'd)

PROJECT	CLIENT
East Boston Piers: HMM was selected by MASSPORT to conduct a feasibility study and EIR for the East Boston Pier lobster terminal and park project. Issues include Chapter 91 permitting, traffic, water quality, construction impacts, and land use planning.	Massport Boston, MA
Worthen Property: Wetlands, water quality, flooding, and drainage impacts were analyzed for a 500,000 SF commercial development in Andover, MA. The site abuts the Merrimack River and includes several backwater areas where roadway crossings were required.	Meredith & Grew Boston, MA
Acorn Park: A major office/R&D development in Acton, MA, required analysis of wetlands, traffic, archaeology, and sub-surface water quality impacts associated with an on-site sewerage treatment and disposal facility.	Nagog Realty Trust Acton, MA
Foxridge: A 532-unit multi-family development in Worcester. Issues included wetlands, drainage, traffic, archaeology, and sewer system impacts.	Gerard McNeil Northboro, MA
Alewife Center: HMM prepared wetlands and ecological analyses for a mixed-use project at the Route 2/Alewife Station area in Cambridge, MA.	Gerald Hines Boston, MA
Concord Commons: For a 250-unit mixed-income project in Concord, MA, HMM compiled the EIR. Topics covered included traffic, wastewater disposal, aesthetics, land-use and visual impacts.	Corcoran Co. Milton, MA
Conifer Hill: For a shopping center in Danvers, MA, HMM prepared an EIR focusing on traffic impacts.	Berry Construction Danvers, MA
ORFA Resource Recovery: A 300 TPD resource recovery facility involving air quality, traffic and noise analyses.	Alternative Resources Inc. Sudbury, MA
East Bridgewater Landfill: Transportation, wetlands and air quality impacts associated with a landfill were investigated.	E. J. Flynn Engineers Inc. Middleboro MA
Thunderbird Shopping Mall: A multi-use shopping facility in Tyngsboro requiring detailed traffic operations and roadway improvement analyses.	Development East Voohees, NJ
International Place: A 2 million SF mixed use development in Boston. Issues included wind, shadow, sewer, historic, air quality, noise and transportation impacts.	The Chiofaro Co. Boston, MA

MASSACHUSETTS EIR PROJECTS (Cont'd)

PROJECT	CLIENT
Boston Edison Co.: Analysis of impacts associated with a 10-mile underground transmission cable, crossing two rivers into downtown Boston.	Boston Edison Co. Boston, MA
Massachusetts General Hospital: A large building program with potential effects on traffic, sewer, wind, shadows and views.	Mass. General Hospital Boston, MA
101 Federal Street: An office building in downtown Boston. Wind, shadow and sewerage were analyzed and mitigation measures proposed.	Federal Franklin Partners Boston, MA
Westborough Technology Park: Traffic impacts were analyzed for a 900,000 square foot R&D/office park in Westborough.	Valley View Assoc. Boston, MA
Middlesex Community College: Traffic, wetlands, drainage and sewer impacts were studied for a new college campus in Bedford, MA.	Division of Capital Planning and Operations Boston, MA
150 Federal Street: An office building in Boston required wind and sewerage studies.	Meredith & Grew Boston, MA
Lyons Street Building: Analysis of traffic impacts associated with an 85,000 SF building in Westborough	Nordblom Co. Boston, MA
Copley Place: A controversial, multi-use development in Boston's Back Bay, the largest mixed-use development ever proposed in New England.	UIDC Boston, MA
Devonshire Towers: A 40-story high-rise, multi-use residential, parking and office building in downtown Boston affecting noise, traffic, air quality and historic properties.	Devonshire Assoc. Boston, MA
Dewey Square Office Building: A 1,000,000 sq. ft. high-rise office building involving transportation, land-use, noise and peak sewage discharge analyses.	Rose Assoc. New York, NY
Codex Corporation Headquarters: A corporate headquarters development in Canton on a Route 128 interchange, involving wetland areas, historic properties, a traffic analysis and expert testimony at hearings.	Codex Corp. Mansfield, MA
Affiliated Hospitals Center: An expansion program including a number of new buildings, renovations and demolition in the Longwood Medical Area in Boston.	AHC Boston, MA
Gristmill Estates: A residential subdivision with wetlands, fisheries and archaeological issues.	Gristmill Construction Marlboro, MA

PROJECT	CLIENT
Milford Hotel: Traffic impacts related to a major convention hotel were analyzed.	Eastside Development Boston, MA
North Hill: A life care community consisting of 375 multi-family dwelling units and a health care center in a suburban Boston town.	Goodwin, Proctor & Hoar Boston, MA
South Shore Hospital: A hospital expansion requiring water, sewer, traffic, air quality and noise analyses.	South Shore Hospital Weymouth, MA
Baystate Medical Center: An expansion project involving wetlands mapping, drainage calculations, and a traffic and parking analysis.	Baystate Medical Center Springfield, MA
Westborough Office Park: A major office and research development project, requiring traffic, air pollution noise sewer, and historic/archeological impact assessments.	Leggatt, McCall & Werner Boston, MA
Newton Corner: A neighborhood revitalization project in Newton including housing, retail and parking space involving traffic, air quality and noise analyses.	Vanasse/Hangan Brighton, MA
Burlington Woods: An office park development in Burlington requiring studies of traffic, air quality and noise impacts.	Vanasse/Hangan Brighton, MA
Apple Hill Development: A combination office and retail development in Natick, MA., requiring traffic, air, noise and drainage impact assessments.	Fay, Spofford & Thorndike Lexington, MA
Highland Acres: Completed a $64 million mixed use development covering 360 acres in Salem. Topics included traffic, wetlands, drainage and archaeology.	Fafard Co. Ashland, MA
Hynes Auditorium: A major expansion of the convention facility in Boston's Back Bay involving traffic, parking, historic resources and urban design issues.	Mass. Convention Center Authority Boston, MA
Highland Avenue Condominiums: A 214-unit condominium project in Salem requiring traffic, air quality, drainage and wetlands analysis.	Stasinos Corp. Lynn, MA
Regency Towers: A mixed use development in New Bedford involving traffic and air quality analyses.	Claremont Development Boston, MA
Quarry Square: A retail mall with impacts on local traffic.	Fafard Co. Ashland, MA
Mariner's Hill: A residential development with potential impacts on groundwater and traffic.	State Street Development Co. Boston, MA

HMM ASSOCIATES

WATER RESOURCE PROJECTS

PROJECT	CLIENT
Northern Peat Energy Project: Evaluation of groundwater monitoring program for proposed peat extraction and processing operation.	Susan Brown Department of the Army New England Division Corps of Engineers Waltham, MA
Charles River District Lakes: Analysis of water quality and sediments to identify hydrological and sedimentation characteristics to be incorporated into watershed management plan.	Susan Brown Department of the Army New England Division Corps of Engineers Waltham, MA
Aquatic Plant Programs - New England States: Assessment of status of existing state level aquatic plant programs and aquatic plant problems in six New England States.	Susan Brown Department of the Army New England Division Corps of Engineers Waltham, MA
Connecticut River Study - Hartford, CT to Holyoke, MA: Environmental inventory and mapping of land use and terrestrial and aquatic resources, including significant habitats, protected species, and wetlands.	David Tomey Department of the Army New England Division Corps of Engineers Waltham, MA
St. John River Reconnaissance Study: As part of several flood protection projects, analysis of 4 river basins in Maine for terrestrial and aquatic resources, including water quality, species of special interest, wetlands, vegetation, and land use.	David Tomey Department of the Army New England Division Corps of Engineers Waltham, MA
Hydrology Study - Attleboro Mall: Hydrology study for development of a 25-acre wetland as a compensation measure for mall development.	Janet O'Neill Department of the Army New England Division Corps of Engineers Waltham, MA
Coastal Flood Protection Study - Southeast New England: Detailed biological, land use and hydrologic study related to flood protection alternatives for the Saugus and Pines Rivers, Revere Beach, and Lynn Harbor.	Joseph Horowitz Department of the Army New England Division Corps of Engineers Waltham, MA
Thamesville Flood Management Environmental Reconnaissance Study: Analysis of water quality, hydrology and environmental impacts associated with structural and nonstructural flood control alternatives.	Joseph Horowitz Department of the Army New England Division Corps of Engineers Waltham, MA

WATER RESOURCE PROJECTS (Cont'd)

PROJECT	CLIENT
Vineyard Haven Inner Harbor Study: Analysis of water quality, aquatic weed problems and remedial measures related to algae accumulation in Vineyard Haven Inner Harbor, Martha's Vineyard.	Susan Brown Department of the Army New England Division Corps of Engineers Waltham, MA
Route 2 Roadway Improvements: Identification and evaluation of water resources, including 10 wetland areas, assessment of potential impacts, and development of amelioration measures.	Dean C. Groves Fay, Spofford & Thorndike Lexington, MA
Route 9 Office Park: Identification and evaluation of wetlands and water quality, drainage analysis and related environmental studies associated with the development of an environmental impact report.	Sally Baer Macomber Development Boston, MA
Cape Arundle and Foul Area Disposal Sites: Oceanographic studies at disposal sites off the coasts of Massachusetts and Maine for water quality, sediments, benthic organisms, finfish and related parameters.	Jim Bajek Department of the Army New England Division Corps of Engineers Waltham, MA
Wellesley Sewer Line Replacement: Identification and mapping of wetland resources along the seven mile sewer line replacement route for the Massachusetts Water Resource Authority.	John Struzziery SEA Consultants Cambridge, MA
East Bridgewater Landfill: Identification and evaluation of wetland resources, assessment of impacts for a proposed landfill expansion, and development of a comprehensive plan for wetlands creation.	Fred DeFeo E.J. Flynn Engineers Middleboro, MA
Wetland Identification and Mapping: Identification and flagging of wetland resources for survey, for development projects throughout Massachusetts.	Paul Marchionda DiPrete-Marchionda Stoneham, MA
Environmental Data Collection Services, Blackstone Heritage State Park: Installation of groundwater monitoring wells, and sampling and analysis of ground and surface waters and soils for proposed park areas along the Blackstone River in Uxbridge, MA.	Robert Kent, Jr. Scape Unlimited Springfield, MA
Wetlands Mapping - City of Waltham: Preparation of wetland maps for the City of Waltham using existing data, aerial photographs, and field verification.	Peter L. Wells Downe and Wells Associates West Newton, MA

HMM ASSOCIATES

WATER RESOURCE PROJECTS (Cont'd)

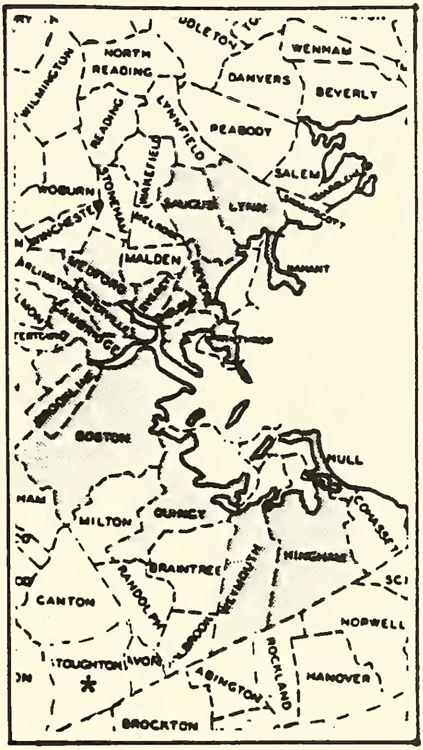
PROJECT	CLIENT
Route 128 Roadway Widening: Identification and evaluation of terrestrial and aquatic resources including wetlands and water quality, and assessment of impacts for the Route 128 roadway widening project between Wellesley and Randolph, MA.	Charles Brackett Sverdrup Corporation Boston, MA
Blue Hills River Salt Study: Water quality studies to identify and evaluate sources of sodium to the Ricciardi Reservoir, particularly those associated with Route 128.	Charles Brackett Sverdrup Corporation Boston, MA
Milford Country Club: Drainage analysis for a proposed condominium development.	Dan Drake Fafard Companies Ashland, MA
Dalvis Office Park: Drainage calculations and wetland identification and impact assessment associated with the preparation of a Notice of Intent for the Framingham Conservation Commission.	Kenneth Dallamora Dallamora Realtors Framingham, MA
Chrysler Road Office Building: Calculations for drain system sizing and determination of storm runoff.	William Snow Heritage Associates Natick, MA
Foxridge Planned Unit Development: Identification, flagging, and evaluation of wetland resources as part of an EIR for a proposed 532 unit development in Worcester, MA.	Gerard McNeil Development Consultant Northboro, MA
Real Estate Appraisal: Identification and mapping of wetland resources for the evaluation of real estate.	Byron E. Woodman, Esq. Woodman & Eaton Concord, MA
Water Quality Analysis - Foxborough, MA: Evaluation of ground and surface water quality parameters in the Sullivan Stadium/Foxborough Raceway Complex.	John Thomson Hutchins and Wheeler Boston, MA
Sediment and Benthic Sampling - New Bedford Harbor: Collection of sediment samples to determine levels of PCBs and heavy metals in the Acushnet River, New Bedford Harbor areas.	Alan Randall Department of the Army Corps of Engineers Waltham, MA
Wetland Identification and Mapping: Identification and flagging of wetland resources for projects throughout Massachusetts.	David Goodemote SEA Consultants Cambridge, MA

EAST BOSTON PIERS

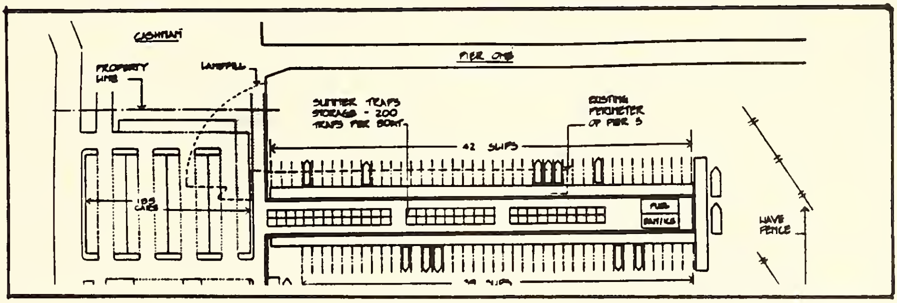
BOSTON, MASSACHUSETTS

HMM was selected by Massport to conduct a feasibility study and EIR for the East Boston Piers lobster terminal and park project. Issues include:

- Chapter 91 - The increased emphasis on preserving waterfront areas for public water dependent uses requires HMM to detail the public benefits and losses due to the proposed project.
- Traffic - HMM will provide an analysis of traffic conditions surrounding the project area and will determine the impact of the proposed changes.
- Water Quality - Sediment and water quality sampling must be performed if work is to occur in tideland areas.
- Construction Impacts - Based upon the project design, HMM will evaluate the impact of construction noise and dust on the surrounding residential neighborhood.
- Land Use Planning - A comprehensive evaluation of the combined needs of the residential community and the lobster industry will be prepared. Based upon this report, HMM will recommend a development alternative responsive to both the present and the future needs of the city and its public waterfront.



Client: Massport [redacted]



HMM ASSOCIATES INC.

THE WORTHEN PROPERTY

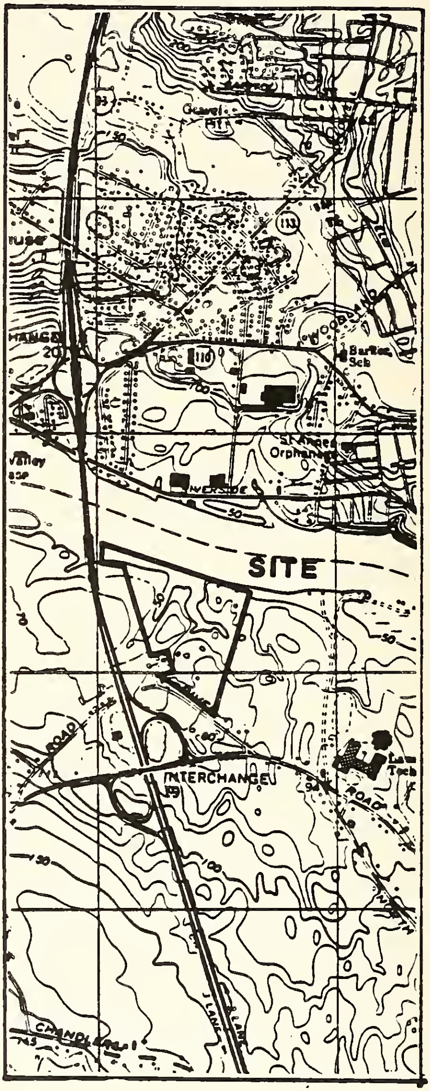
ANDOVER, MASSACHUSETTS

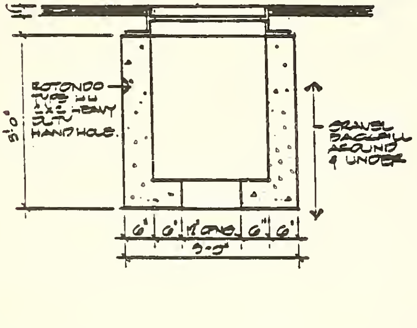
The Worthen Property site, comprised of a 500,000 square foot office complex, abuts the Merrimack River in Andover. Environmental site conditions relating to that proximity were assessed in the reports prepared for MEPA review. Specific topics addressed included:

- Wetlands - The wetlands on the site were located and their value was assessed utilizing the FHWA method. The extent of wetland impact due to the proposed development was also quantified.
- Water Quality - The site drainage scheme was described in detail and was evaluated to determine the potential for degradation of water quality due to siltation, salt, oil and grease, etc.
- Rare Species - Communities of Red River Birch are not often found in Massachusetts. A profile of the existing community on-site was developed and the potential for the Worthen Property to affect this community was determined.
- Archaeology - HMM directed an archaeological subconsultant to prepare a site assessment for MEPA and Massachusetts Historical Commission review. Based upon this report, it was determined that no significant cultural resources would be affected by site development.

These comprehensive studies adequately addressed MEPA's concerns regarding environental impact.

Client: Meredith & Grew

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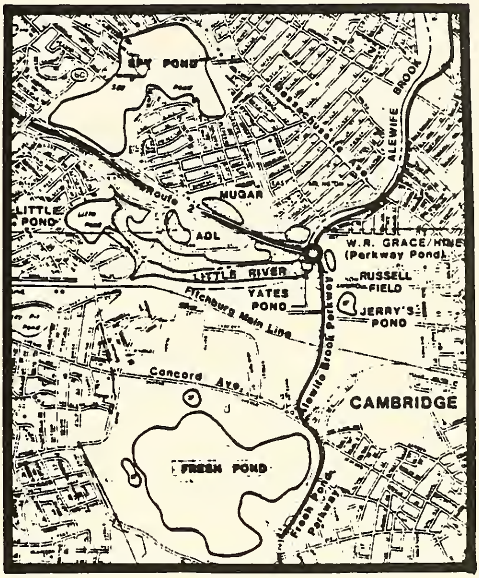
GRAVEL BACKFILL AROUND & UNDER
6"
6"
6"
6"
5'-5"

ROUTE 2/ALEWIFE BROOK PARKWAY DRAFT EIS/EIR

Arlington, Belmont, Cambridge, MA



The Route 2/Alewife Brook Parkway project area is in need of transportation system improvements due to significant traffic congestion and vehicular and pedestrian safety problems resulting from the transition of expressway to parkway. The environmental sensitivity of the area was a major concern because it includes water resources, extensive wetlands, and a shallow floodplain.

HMM conducted environmental assessments for a joint EIR/EIS for the Massachusetts Department of Public Works and the U.S. Department of Transportation, Federal Highway Administration that included these aspects:

- Wetlands Evaluation
- Vegetation and Wildlife Identification
- Water Resource Analysis

HMM also conducted an air quality study including the following analyses:

- Microscale analysis of CO levels at "hot spot" locations
- Mesoscale analysis of total CO, NO_x associated with formation of Ozone and Non-Methane Hydrocarbons (NMHC) emissions from local traffic.

Client- Fay, Spofford & Thorndike
Massachusetts Department of Public Works

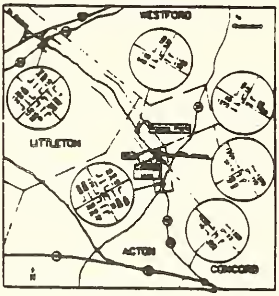
HMM ASSOCIATES, INC.

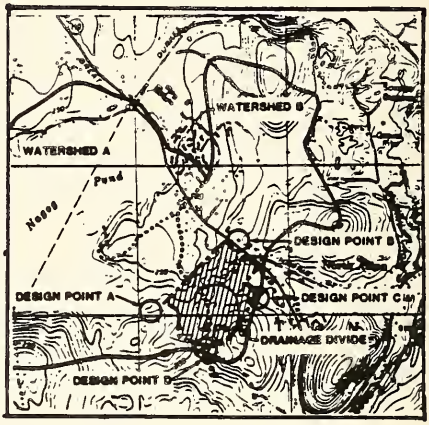
ACORN PARK

ACTON, MASSACHUSETTS

The expansion of development within Route 495 has spurred growth in the Town of Acton. HMM Associates was retained to provide environmental consulting services for Acorn Park, a 67 acre research & development and light industrial complex located on Route 2A. Areawide growth has resulted in transportation pressures on the local road system; also, the special constraints of the project site itself presented a development challenge. Therefore, HMM provided project assistance in the following areas:

- Wetlands - Access to the developable land on the project site required the crossing of site wetlands. HMM revised the site plan to substantially reduce the wetland impacts to meet the requirements of MGL Chapter 131, Section 4.0. This design change represents a savings of the time and money required for subsequent wetland permit filings.
- Traffic - Based upon a detailed analysis of future traffic conditions in the project area, HMM estimated the potential impact of Acorn Park traffic. Site-specific mitigation was proposed to alleviate existing traffic problems. In addition, improvements to the Town's current plans for roadway upgrading were recommended.





- Archaeology - HMM directed an archaeological subconsultant to investigate cultural resources on the site. Their final report, approved by the Massachusetts Historical Commission, confirmed that the historical and archaeological areas on the site were not significant.
- Sub-Surface Water Quality - HMM conducted extensive groundwater modelling and soils testing to determine the best location for the required sewage treatment system.
- Engineering Design - Detailed engineering plans for roadways, infrastructure and buildings were designed and prepared by HMM engineering staff.

The Acorn Park project represented a comprehensive review of potential project impacts and the opportunity to minimize or alleviate those impacts through sensitive project design.

Client: Acorn Park Realty Trust [redacted]

RESUMES

T. ANDRE BOVER

Education

B.S. Civil Engineering, Lowell Technological Institute 1972.

Summary of Experience

Mr. Bover is an Associate of HMM Engineers, Inc. and is director of civil engineering design services. Mr. Bover has served as Project Manager for a wide variety of civil engineering projects including: industrial park development; residential development; urban systems; traffic safety improvements; sewer, water, and drainage systems improvements; recreational site development and waterfront facilities. Throughout his career, Mr. Bover has directed civil engineering projects with cost in excess of $180 million. Through this experience, Mr. Bover has gained an understanding of the regulatory and public process and the construction and design issues necessary to successfully complete a project and fulfill the needs of his clients.

Professional Experience

1986-Present HMM Engineers, Inc., Associate - Director of Civil Engineering Design Services.

Responsibilities include project management and design efforts for general civil engineering projects. The scope of this work includes project planning, design, development of contract drawings, specifications, estimates and construction administration.

The following projects summarize the variety of work completed or under development:

- Roadway and Parking Lot design at Newton-Wellesley Hospital
- Traffic Signalization and Roadway Improvements at two locations in Acton, Massachusetts.
- Traffic Signal Design at 26 locations in Lynn, Massachusetts.
- Site Design for 95,000 s.f. Commercial Development in Holden, Massachusetts.
- Engineering Assistance to the Woonsocket Planning Board.
- Planning for Docking and Commuter Boat facility in Lynn, Massachusetts.
- Drainage Study at four locations in Woonsocket, Rhode Island.
- Site Planning for 150 unit Residential Development in Attleboro, Massachusetts.
- Site Planning for 70-unit Residential Development in Hubbardston, Massachusetts.

1979-1986 Hayden-Wegman, Consulting Engineers. Associate - Civil Engineering.

Directed the design activities of the Civil Engineering Division. Responsibilities included the management and design of a wide variety of civil engineering projects such as:

- Lynn Urban Heritage State Park.
- Fish Passage Facilities on the Charles River.
- Lynn Industrial Fish Pier.
- South Lowell Sewerage and Drainage Facilities.
- Gloucester Harbor Cove Wharf and Bulkhead.
- Ludlow Urban Systems.
- Gloucester Community Dredging.
- Chicopee Roadways.
- Lynn Harborwalk Extension Planning.
- Auburn Roadways.
- Wrentham Water Main Rehabilitation.
- Gloucester Dockage Facilities.
- Alewife Center EIR - Utilities and Wetlands.
- Water Main Leak Detection Programs.
- Parking Facility Study and Design.
- Hingham Shipyard Roadway.
- Lawrence Water and Sewer Study.
- Gloucester Seaford Park - Parking Facility.
- Gloucester Down Town Parking Study.

1972 - 1979 State of New Hampshire, Department of Public Works and Highways. Civil Engineer, Project/Resident Engineer.

Responsibilities included resident inspection of highway, bridge and bridge rehabilitation construction projects including interstate, secondary highway and bridge projects, urban system projects, traffic signal installations and testing of materials. Additional experience included development of a program for the utilization of available funds for upgrading railroad crossings throughout the state; design assistance and construction inspection of the Concord to Lincoln railroad line; assistance in development of computerized control of traffic/highway information; and, design of bridge rehabilitation projects.

Registration

Professional Engineer in New Hampshire.
Professional Engineer in Massachusetts.
Professional Engineer in Rhode Island.

W. STERLING WALL

Education

B.A. Geology, University of Massachusetts, Amherst, MA.

Summary of Experience

As a project manager and senior staff scientist, Mr. Wall serves HMM Associates in a variety of capacities. He has over ten years experience in environmental assessment and planning as a coastal geologist, wetland specialist, naturalist, and regulatory analyst. As a consultant to the Massachusetts Office of Coastal Zone Management and Department of Environmental Quality Engineering, he reviewed a wide range of projects and wrote and testified on decisions regulating construction under the Commonwealth's environmental protection programs. He has performed wetland studies including field determination of statutory wetland boundaries and has designed and implemented wetland mitigation programs in both inland and coastal areas. In addition, he has performed coastal processes and flood zone analyses as well as research on barrier beaches.

As a project manager, Mr. Wall has directed successful environmental and permitting efforts, assisting clients in meeting project goals, developing innovative solutions to environmental permitting problems, and acquiring permits and licenses for coastal and inland projects on a limited time schedule. His knowledge of regulatory constraints including those imposed by the new Chapter 91, Waterways Regulations enables Mr. Wall to be particularly effective by assisting clients in designing permissable projects and interacting with State and Federal agencies.

Mr. Wall has also represented public and private clients on environmental matters at public meetings and hearings before conservation commissions and zoning boards of appeal, and has served as an expert witness at adjudicatory hearings and in land court cases.

Professional Experience

1986 HMM Associates, Project Manager and Senior Staff Scientist.

Mr. Wall manages projects in the areas of coastal and inland wetland analysis, environmental land use and waterfront development.

1983-1985 BSC Group/BSC Engineering.

Mr. Wall served as Project Manager and/or Senior Scientist for a variety of projects including:

- Spinnakar Island Condominium and Marina Development, Hull, MA., directed the scientific site studies, and hydrographic surveys, assisted in marina design, and prepared all local, state and federal environmental permits, an ENF, a Chapter 21E hazardous waste assessment and an environmental certification for Sandcastle Associates.

- The Schrafft Center, Charlestown, MA., directed the scientific site studies, topographic and hydrographic surveys, assisted in biological and hydraulic evaluations, waterfront layout, and was responsible for the preparation of the Chapter 91 Waterways Petition, presentations before the BRA and Harborpark Advisory Board, preparation of the ENF, EIR, Water Quality Certification application and the Notice of Intent for the Flatley Company.

- Northwoods Business Park, Danvers, MA., responsible for the delineation and evaluation of inland wetland resource areas, preparation of compensatory flood storage and wetlands plans to mitigate for construction impacts, preparation of wetland submittals to local, state and federal agencies, and the wetland section of an EIR. Represented client before the conservation commission and zoning board of appeals, the DEQE on appeals and provided expert witness testimony at Land Court for Rosewood Development Corporation.

- Spectacle Island, Boston Harbor Islands, responsible for coastal wetland resource area inventory, erosion assessment, prepared preliminary designs for on-site landfill closure and proposed recreational site use, prepared construction estimates and the Engineering Feasibility Study Report for the Massachusetts Department of Environmental Management Boston Harbor Islands Study.

1978-1985 Massachusetts Office of Coastal Zone Management and the Department of Environmental Quality Engineering (DEQE), Coastal Geologist.

Responsibilities included assistance with the implementation of the new coastal regulations to the Wetlands Protection Act (Chapter 131, Sec. 40), review of development proposals, conducting agency reviews of proposals on appeal, preparation of written decisions and presentation of expert witness testimony at adjudicatory hearings.

Representative projects included:

- Maintenance and Improvement Dredging, MA. Coordinated the Commonwealth's agency review of numerous dredging projects from Cohasset to Salisbury including Hull, Boston, Lynn, Salem, Danvers, Gloucester and Newburyport; designed sediment sampling programs, dredge spoil dewatering and disposal plans, environmental permitting.

- Barrier Beach Mapping, MA. With the Office of Coastal Zone Management, identified and mapped the boundaries of the barrier beach systems in the Commonwealth.

- Compensatory Saltmarsh, MA. Performed field and literature research to develop guidelines for innovative Commonwealth policy for providing new saltmarsh wetlands under the provisions of the Wetlands Protection Act.

Prior to 1978	Prior work included research assistant for the analysis of coastal processes on the barrier beaches on northeastern Massachusetts, Cape Cod, Martha's Vineyard and Long Island, and as a naturalist. Representative projects included:

- Tiana Beach, South Hampton, Long Island, NY. Project coordinator and research scientist with the Coastal Research Center, University of Massachusetts, responsible for instrumentation and data collection for surf zone/shoreface experiments performed for the U.S. Office of Naval Research.

- Felix Neck Wildlife Trust, Martha's Vineyard, MA. Assistant director and naturalist for Massachusetts Audobon Felix Neck Wildlife Sancturary on Martha's Vineyard. Worked on oiled-bird rehabilitation, osprey nesting research and natural history education.

Professional Affiliations/Registrations

- The Coastal Society
- The Society of Wetland Scientists
- Society of Economic Paleontologists and Mineralogists

BERNARD P. HOLCOMB

Education

M.S., Ph.D	Environmental Sciences, Columbia Pacific University, 1984, 1985
B.S.	Natural Resource Studies, University of Massachusetts, 1976

Summary of Experience

Mr. Holcomb has a broad base of experience in the environmental sciences. He has specialized in the areas of terrestrial resource identification and assessment, and habitat evaluation. He has been involved in the environmental assessment of wetlands and other terrestrial resources throughout New England and Eastern United States. Mr. Holcomb has conducted numerous environmental inventories, reconnaissance studies, and impact studies under federal and state regulations. He has participated in the development and presentation of wetland training courses for the U.S. Department of Transportation, Federal Highway Administration, and a major study on habitat evaluation methods for the U.S. Army Corps of Engineers, Institute for Water Resources. In addition, Mr. Holcomb has worked with Federal, State and municipal governmental agencies as well as private industry on water resource, transportation, and development projects.

Professional Experience

1984 - Present

HMM ASSOCIATES

Project Manager and Senior Staff Scientist for environmental, transportation, flood protection and development projects. Project work has included wetland identification and mapping using the U.S. Fish and Wildlife Service Wetland Classification System, U.S. Army Corps of Engineers Wetlands Delineation Method, and various New England State Regulations, and wetlands assessment and evaluation under the U.S. Department of Transportation, Federal Highway Administration's Wetland Evaluation Method. Also responsible for resource identification and evaluation with respect to vegetation, wildlife, protected species and water resources; as well as the assessment of alternative actions, delineation of amelioration measures and development of wetland restoration and creation plans.

- Project Manager for a wide variety of governmental and private development projects and studies requiring ecological services, ranging from mineral mining in northern Maine to a municipal golf course on Cape Cod to residential and commercial development projects throughout Massachusetts.
- Conducted a survey and assessment of aquatic plant programs and problems within the six New England States for the U.S. Army Corps of Engineers, New England Division.

- Performed a terrestrial and wetland resource inventory, and a land use survey of the Connecticut River floodplain from Hartford, Connecticut to Holyoke, Massachusetts for the U.S. Army Corps of Engineers, New England Division.

- Conducted environmental reconnaissance studies on the Thames River, Thamesville, CT.; St. John, Fish, and Meduxnekeag Rivers and Prestile Stream in northern Maine, and the Pines and Saugus Rivers in eastern Massachusetts in response to proposed flood protection plans.

- Engaged in comprehensive environmental assessments and evaluations of wetlands, terrestrial ecology and water quality for major roadway improvement projects for the Massachusetts Department of Public Works, including the Route 128 Add-a-Lane project and the Route 2/Alewife Brook Parkway project and the State of Maine Department of Public Works (i.e., Brunswick/Topsham Bypass Study).

- Conducted a wetlands inventory and assessment as part of an EIR for a proposed landfill expansion. Designed and developed a wetland compensation plan to create new wetland resources to mitigate project activities.

- Wetland boundary delineation and mapping using the Massachusetts Wetlands Protection Act and Regulations for the Massachusetts Water Resources Authority and numerous proposed residential and commercial development projects.

1983-1984 PRIVATE CONSULTANT. Wetland Ecologist and Biologist for New England engineering firms and conservation group. Responsible for wetland identification, and environmental assessment of aquatic and terrestrial resources for municipal, commercial and residential development projects. Conducted training in environmental awareness and on key resource issues.

1979-1983 NEW ENGLAND RESEARCH, INC. Senior Research Associate, Project Manager and Technical Writer/Editor for national, regional, state and local environmental research and development projects.

- Co-Principal Investigator for an environmental research project investigating habitat evaluation methods for the U.S. Army Corps of Engineers, Institute for Water Resources.

- Designed, developed and participated in the presentation of training programs for the U.S. Department of Transportation on wetlands and ecology, including: Effects of Highway Development on Wetland Areas, Highways and Wetlands, and Ecology and Highway Development.

- Designed and developed hazardous waste training programs for the U.S. Environmental Protection Agency Subtitle C Integrated Training Program under the Resource Conservation and Recovery Act.

- Conducted environmental impact assessments of Massachusetts reservoirs, surface and groundwaters for the Commonwealth of Massachusetts, Metropolitan District Commission's Northfield Water Supply Study Project with respect to aquatic and terrestrial resources, and water quality.

- Engaged in an environmental impact assessment of the Boston Inner Harbor for the Commonwealth of Massachusetts, Metropolitan District Commission's Combined Sewer Overflow Program.

1978 U.S. DEPARTMENT OF THE INTERIOR YOUTH CONSERVATION CORPS. Assistant Director and Work Coordinator for project activities at Fort Devens, MA. Engaged in the restoration of water bodies and recreational facilities throughout the Fort Devens Military Reservation.

Other Professional Data

Affiliations:

- National Wildlife Federation
- International Wildlife Federation
- Nature Conservancy

Selected Publications

Investigation of the Relationship Between Land Use and Wildlife Abundance, Phase I: Literature Survey. 1980. U.S. Army Corps of Engineers, Institute for Water Resources. Fort Belvoir, VA.

Regulation Information Program (RIP) for Generators and Transporters of Hazardous Waste. 1980. U.S. Environmental Protection Agency. Washington, DC.

Volume II - Environmental Assessment Report, Combined Sewer Overflow Project, Inner Harbor Facilities Plan. 1980. Commonwealth of Massachusetts, Metropolitan District Commission. Boston, MA.

Northfield Water Supply Study Project, Environmental Impact Report: Ecology - Reservoirs, Surface and Groundwaters. 1980. Commonwealth of Massachusetts, Metropolitan District Commission. Boston, MA.

Investigation of the Relationship Between Land Use and Wildlife Abundance, Phase II: Field Investigations. 1981. U.S. Army Corps of Engineers, Institute for Water Resources. Fort Belvoir, VA.

Waste Exchange - Industrial Resource Recovery. 1981. U.S. Environmental Protection Agency. Washington, DC.

RCRA Personnel Training Guidance Manual (For Owners and Operators of Hazardous Waste Management Facilities). 1981. U.S. Environmental Protection Agency. Washington, DC.

International Right of Way Association Course 601 Revision, Environmental Considerations. 1982. International Right of Way Association, Monterey, CA.

Hazardous Waste Information for Generators and Transporters, A Practical Two-Day Training Course. 1982. NER Institute for Education and Training. Worcester, MA.

Effects of Highway Development on Wetland Areas: Student Workbook, Instructor's Guide, Self-Training Manual, Glossary and Handbook, and User's Guide. 1983. Department of Transportation, Federal Highway Administration. Washington, DC.

Aquatic Plant Programs, New England States. 1985. Department of the Army, New England Division, Corps of Engineers. Waltham, MA.

Long Island Sound, Thamesville, Connecticut Tidal-Flood Management Environmental Reconnaissance Study. 1985. Department of the Army, New England Division, Corps of Engineers. Waltham, MA.

Upper St. John, Fish and Meduxnekeag River Basins and Prestile Stream Basin Environmental Reconnaissance Studies. 1985. Department of the Army, New England Division, Corps of Engineers, Waltham, MA.

Connecticut River Study, Hartford, Connecticut to Holyoke, Massachusetts. 1985. Department of the Army, New England Division, Corps of Engineers. Waltham, MA.

Wellesley Extension Sewer Replacement Wetlands Delineation and Mapping. 1985. SEA Consultants/MA Water Resources Authority. Boston, MA.

Flood Damage Reduction Study Saugus River and Tributaries, Lynn, Malden, Revere and Saugus, MA, Environmental Reconnaissance Report. 1986. Department of the Army, New England Division, Corps of Engineers, Waltham, MA.

Other Subconsultants Qualifications

egina Villa, Associates
9 Park Street
Boston, MA. 02108

(617) 367-6058

Regina Villa, Associates

SERVICES

Regina Villa Associates is a Women's Business Enterprise, founded in 1978, that provides Public Acceptance consulting services with full and partial Public Participation Programs and total issues management services.

Environmentally sensitive projects have been completed with many of the leading engineering firms in New England. The firm also serves as the legislative agent for many statewide groups. A client list is available upon request.

Regina Villa Associates can supply all personnel for Public Acceptance and Community Relations programs.

Full Public Acceptance
Formation of Citizens Advisory Committees
Fact Sheets
Establishment of Information Centers
Citizens Advisory Committee Staffing
Public Meetings
Media Relations
Strategic Planning and Consultation
Press Releases
Complete Mailing Lists
Responsiveness Summaries
Public Hearings
Workshops
Speaker Training

PRINCIPALS

Regina M. Villa

Regina Villa, President of Regina Villa Associates has managed a variety of environmental and public participation projects. She has been a congressional aide, a political consultant and a former Executive Director of the Massachusetts Nurses Association. She holds a Master Degree in Public Administration.

Mary Lou Maloney

Mary Lou Maloney is a former staff member of the Executive Office of Human Services and the former Executive Director of the Massachusetts Association for Retarded Citizens. She joined RVA in 1986 & holds a Masters Degree in Sociology.

Charles Gardiner

Charles Gardiner is a public acceptance specialist. He has served as a hazardous waste organizer and advocate for MASSPIRG. Mr. Gardiner, who joined RVA in 1986, is a graduate of the University of North Carolina.

Nancy Farrell

Nancy Farrell has been with RVA since 1981, has conducted public interest campaigns and is a public participation specialist. She is a former lobbyist for the Services Empoyees International Union and holds a Masters Degree in Public Administration from JFK School of Government at Harvard University.

Marianne Hughes

Marianne Hughes specializes in issues strategies and campaign implementation. She has been the Director of Packard Manse Media project, a campaign consultant, a community organizer and a lobbyist. Ms. Hughes has been with RVA since 1984.

Mary Kelly

Mary Kelly is the Administrative Assistant for RVA and manages all public communications and office administration. She has been with RVA since 1985.

Jeanne Murphy

Jeanne Murphy is a communication specialist and a graduate of Boston University's College of Communications, with a specialty in broadcasting and film. She joined RVA in 1986.

RESUME

REGINA M. VILLA
6 Church Street
Manchester, MA 01944

Home: (617)927-2773
Office (617)367-6058
9 Park Street
Boston, MA 02108
40 Beach Street
Manchester, MA 01944

Born: December 25, 1933
Married: Richard J. Villa
2 children: Nicholas - age 22
Peter - age 16

PROFESSIONAL EXPERIENCE

President and Owner of Regina Villa Associates - Public Affairs consulting firm specializing in Public Acceptance & Public Participation Programs and legislative issues management. (Client list attached).
October, 1978 - Present

Chief Executive Officer of the Massachusetts Nurses' Association - administered 10,000 member multi-purpose state-wide agency that provides collective bargaining, legislative, educational and professional services for the Registered Nurses in Massachusetts. Supervised a professional staff of twenty-one.
April, 1976 - October, 1978

Political Aide to Congressman Michael J. Harrington, 6th Congressional District of Massachusetts. Developed health care and social issues, acted as liason to Human Service constituencies.
January, 1973 - May, 1976

Project Consultant to the North Shore Developmental Program. Conceived and developed a program for 60 multi-handicapped infants and their families. Developed funding sources, personnel standards, and program criteria.
September, 1972 - June, 1975

roducer and Interviewer of the "Jean Roberts Show," a daily half hour ublic Affairs program, WMLO, Danvers.
October, 1970 - June, 1971

xecutive Director of the Cerebral Palsy Association of the North Shore. dministered and developed programs for the handicapped children and adults f the North Shore. Administration included budgeting, fund raising, ommunity education, staff supervision and development of a network of preschools for handicapped children in conjunction with out-patient clinics.
January, 1967 - June, 1972

AMPAIGNS

onvention Manager - Shannon for Attorney General - April 1986

olitical Director, Shannon for Senate Campaign, April, 1984 - September, 984.

eputy Campaign Manager for Finance - Senator Paul Tsongas, October, 1983 - anuary, 1984.

andidate for State Senator - First Essex-Middlesex - 1978, 1980.

tate-Wide Press Coordinator - Vote "No" on Q2 (Prop. 2 1/2) - 1980.

ield Coordinator and Fund Raiser - Congressman Michael Harrington: 1970, 72, 1974, 1976.

APPOINTED AND ELECTED OFFICES

Chairman, Governor's Forum in Human Resources - 1983-Present

State Health Coordinating Committee - 1985-Present

Chairman of Manchester Brotherhood Committee, formed in response to anti-Semitic incidents - 1982

Member, Democratic State Committee - 1984-Present

Member of the Platform Committee - Massachusetts Democratic Party - 1981

Member of the National Rules Committee - Democratic Party - 1980

Delegate to the National Democratic Convention - 1976, 1980

Commissioner, Massachusetts Group Insurance Commission - 1975-1979

Finance Committee, Town of Manchester - 1975-1978

Manchester Democratic Town Committee - 1962-Present

ACADEMIC APPOINTMENTS

Instructor - Boston University, Graduate School of Nursing - 1978-Present

Instructor - Boston College, Graduate School of Nursing. Developed course - "Health Care, Legislation and Politics" - 1979-1983

EDUCATION

Masters in Public Administration - Suffolk University - 1976

Registered Nurse - Lenox Hill Hospital School of Nursing, New York City. - 1955

Attended - Chestnut Hill College - 1951-1952

High School - Mount Saint Mary Academy, Newburgh, NY - 1951

Laurence D. Collins
20 Meadowbrook Road
Norwell, MA 02061
Tel. (617) 826-4518

EXPERIENCE:

1986-87. Press Secretary. James M. Shannon, Democratic candidate for Attorney General of Massachusetts (Elected). Principal spokesman in primary and general elections; offered media counsel, prepared speeches and press releases, organized press conferences, arranged more than 150 individual interviews with print, radio and television reporters.

Media Consultant/Clients: NewsWest, Natick-based weekly newspaper (circulation: 79,495). Contributing editor, provided counsel on all editorial matters to Publisher, James J. Kerasiotes.

JFK Memorial Commission. Prepared preliminary proposal for media strategy, organized initial press conference and media package which successfully launched campaign for JFK Memorial on State House grounds.

1963-86. Boston Globe, Boston, MA. State House Bureau Chief, Assistant Financial Editor, Political Reporter, Financial News Reporter, Banking Columnist, Financial News Copy and Layout Editor.

As State House Bureau Chief, directed staff of six in covering state politics and government; as Political Reporter, covered governor, legislature, state agencies, with particular emphasis on state budget, legislative reform efforts and investigative reporting; as Assistant Financial Editor, directed staff of 10-12 reporters and assisted in supervision of department's copy and editing and clerical staff; as Financial Reporter, covered general business and economic news and wrote weekly column on developments in commercial and thrift banking; as Copy and Layout Editor, edited all financial news and columns, designed financial page layout and supervised page makeup in composing room.

(During financial writing years also served as "stringer" correspondent in Boston for Reuter financial news wire and American Banker, New York based daily journal of the banking industry.)

1959-63. Register System of Weekly (Catholic) Newspapers, Denver, CO. Proofreader, copy and layout editor, feature writer.

1955-59. United States Air Force. Honorable Discharge

OTHER PROFESSIONAL EXPERIENCE: Panelist in numerous televised interview programs; panelist and occasional lecturer on media issues at Kennedy School of Government and Eagleton Institute of Politics, Rutgers University; moderator of symposium on Future of County Government at Kennedy Memorial Library; speaker and panelist at numerous business organization meetings, including Boston Stock Exchange, Associated Industries of Massachusetts and local Chambers of Commerce.

EDUCATION: University of Colorado, Boulder, CO. Political Science (one semester short of B.A. degree)

HONORS, AWARDS: Gerald Loeb Award for Distinguished Financial Journalism; University of Missouri School of Journalism Award for Distinguished Financial Journalism; Paper, "The Effects of State Regulation on New England Small Business" presented at White House Conference on Small Business; Stonier School of Banking Summer Fellowship for Journalists at Rutgers University; UPI Regional Award for Political Reporting (together with Globe Spotlight Team).

References furnished upon request.

JEANNE E. MURPHY

10 MORGAN AVENUE
STONEHAM, MA. 02180
(617) 438-9298

EDUCATION

Boston University
Boston, Massachusetts

- Bachelor of Science - May 1986
- Major in Communications
- Minor in Political Science
- Grade Point Average 3.2
- Financed approximately 60% of educational expenses by working throughout college.

Brockton High School
Brockton, Massachusetts

- Received diploma in June 1979
- Member of National Honor Society

EXPERIENCE

1/78 - 11/79	LEGAL SECRETARY Creedon and Creedon, Brockton, MA Attorneys-at-Law. Worked as a legal secretary throughout junior and senior years of high school. Typing, shorthand, filing, research cases, prepare legal documents. Extensive client contact and interaction.
11/79 - 9/81	EXECUTIVE SECRETARY Hit or Miss, Stoughton, MA - Real Estate/Construction. Executive Secretary to the Director of Real Estate and Construction. Typing, filing, shorthand and extensive client contact. Dealing specifically with contractors, landlords and clients. Researching new locations, working with demographics and blueprints. Overseeing jr. secretary's duties.
9/81 to Present	Waitress, Bartender and Hostess - full time in Hingham, MA and Winchester, MA.

INTERESTS AND ACTIVITIES

Volunteer intern at local cable station, video intern for local small production company, assistant aerobics teacher.

References Furnished Upon Request.

STANDARD FORM 254

ASEC CORPORATION

FORM (SF)
254
Architect-Engineer and Related Services Questionnaire

ASEC Corporation
383 Dorchester Avenue
Boston, MA 02127

1a. Submittal is for ☒ Parent Company ☐ Branch or Subsidiary Office

Established: 1978

3. Date Prepared: August 1986

4. Specify type of ownership *and* check below, if applicable.

A.	Small Business	
B.	Small Disadvantaged Business	XXX
C	Woman-owned Business	

5. Name of Parent Company, if any:

same as above

5a. Former Parent Company Name(s), if any, and Year(s) Established:

Not Applicable

6. Names of not more than Two Principals to Contact: Title / Telephone
1) Abdulkader C. Hamadeh, PE, President 268-1560
2)

7. Present Offices: City / State / Telephone / No. Personnel Each Office

383 Dorchester Avenue
Boston, MA 02127

7a. Total Personnel 30

8. Personnel by Discipline: *(List each person only once, by primary function.)*

3	Administrative	2	Electrical Engineers		Oceanographers	2	Highway Engineer
2	Architects	3	Estimators		Planners: Urban/Regional	1	Manufacturing Eng.
	Chemical Engineers		Geologists		Sanitary Engineers		
3	Civil Engineers		Hydrologists		Soils Engineers		
2	Construction Inspectors		Interior Designers	2	Specification Writers	*	Personnel are listed
2	Draftsmen		Landscape Architects	4	Structural Engineers		for more than one
	Ecologists		Mechanical Engineers	12	Surveyors		discipline
	Economists		Mining Engineers		Transportation Engineers		

9. Summary of Professional Services Fees Received: (Insert index number)

Last 5 Years (most recent year first)

	1985	1984	1983	1982	1981
Direct Federal contract work, including overseas	1	1	1	1	1
All other domestic work	4	4	3	3	3
All other foreign work*	0	0	0	0	0

*Firms interested in foreign work, but without such experience, check here: ☒.

Ranges of Professional Services Fees

INDEX
1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 million
5. $1 million to $2 million
6. $2 million to $5 million
7. $5 million to $10 million
8. $10 million or greater

Code	Projects	(in thousands)	Code	Projects	(in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 005	3	30	11) 046	7	25,000	21) 101	1	n/a
2) 009	2	55	12) 047	2	2,400	22) 102	95	2,500
3) 011	24	n/a	13) 060	1	n/a	23) 104	1	37
4) 017	4	n/a	14) 062	1	3	24) 106	4	140
5) 022	1	20	15) 072	6	n/a	25) 109	2	n/a
6) 024	1	65	16) 083	1	5	26)		
7) 029	3	n/a	17) 087	5	n/a	27)		
8) 032	1	15	18) 088	5	5	28)		
9) 039	5	n/a	19) 089	3	2,500	29)		
10) 042	2	n/a	20) 092	1	n/a	30)		

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
005	P	1 Hanscom Airfield Bedford, MA	Massachusetts Port Authority 10 Park Plaza Boston, MA 02116	$ 60	1985
009	C	2 Pumping Station Odor Control System Design Rockport, MA	Town of Rockport Rockport, MA	$ 100	1982
011	IE	3 Route 146 Bridge Rehabilitative Design Sutton, Northbridge, Uxbridge	Department of Public Works 10 Park Plaza Boston, MA 02116	$30000	1982
011	IE	4 Route 9 and Route 10/302 Keene and Lisbon, NH	Department of Public Works and Highways Concord, NH	$25000	1977
011	IE	5 Highland Avenue Bridge Somerville, MA	Metropolitan District Comm. 20 Somerset Street Boston, MA 02108	$ 850	1979
017	IE	6 North River Plaza Pembroke, MA	John Hancock Insurance Co. Copley Square Boston, MA 02116	$8000	1982
022	C	7 Cathodic Protection Design Hoosac Pier Boston, MA	Massachusetts Port Authority Logan International Airport Boston, MA	$ 75	1982

024	P	Dams, Phase I Massachusetts	Department of the Army Corps of Engineers Waltham, MA 02254	$ 65	1982
029	IE	9 Burlington High School Burlington, MA	Burlington School Department Burlington, MA	$ 15,000	1972
032	P	10 Energy Audit Exchange Building Needham, MA	New England Telephone Co. 99 High Street Boston, MA	$ 15	1980
039	IE	11 Central Parking Garage Logan International Airport Boston, MA	Massachusetts Port Authority Logan International Airport Boston, MA	$ 1000	1982
039	IE	12 Dock Square Parking Garage Boston, MA	Attorney Guy Carbone Gould, Serra and Flynn 6 Beacon Street Boston, MA	$ 600	1983
039	IE	13 Brooks House Apartment Complex and Parking Deck Brookline, MA	Brisk Waterproofing Co. 858 Providence Highway Dedham, MA	$ 450	1983
042	IE	14 Nantasket Pier Improvements Hull, MA	Town of Hull Hull, MA	$ 450	1984
042	IE	15 Breakwater Study Black Rock Bridgeport, CT	Department of the Army Corps of Engineers Waltham, MA 02254	$ 25	1982
046	C	16 Logan International Airport Airport Runways 15 and 9-27 Boston, MA	Massachusetts Port Authority 10 Park Plaza Boston, MA 02116	$ 8 (Fee)	1985
046	IE	17 Rehabilitation of Route 15 Bangor/Glenburn, Maine	Maine Dept. of Transportation Transportation Building Augusta, Maine	- 527	1981
046	IE	18 I-95, Saco Connector Saco, Maine	Maine Dept. of Transporation Transportation Building Augusta, Maine	13,100	1978
046	IE	19 Liberty Street Bridge Replacement and Safety Improvements Braintree, MA	Massachusetts Dept. of Public Works 10 Park Plaza Boston, MA	1,300	1986

			Portland, ME	$ 800	1984
083	P	21 Electric Power Distribution System Bedford, MA	Massachusetts Port Authority Logan Internation Airport Boston, MA	$ 5 (Fee)	1980
087	IE	22 One Half Mile Elevated Structure Atlanta, GA	Metropolitan Atlanta Rapid Transit Authority (MARTA) Atlanta, GA	$ 45000	1980
087	IE	23 Station Modernization Andrew and Broadway Stations S. Boston, MA	Massachusetts Bay Transportation Authority Boston, MA 02116	$ 9000	on-going
088	P	24 Redesign of Five Parks Boston, MA	Boston Public Facilities Dept. 26 Court Street Boston, MA 02108	$ 5	1985
089	P	25 Roslindale Municipal Building Roslindale, MA	Boston Public Facilities Dept. 26 Court Street Boston, MA 02108	$ 625	1985
102	C	26 Reconstruction and Resurfacing of US Route 1 Sharon, Walpole, Norwood, MA	Massachusetts Dept. of Public 10 Park Plaza Boston, MA	$ 250	on-going
102	C	27 Topographic and Hydrographic Surveys Beverly/Danvers, MA	South Essex Sewer District Beverly, MA	$ 80 (Fee)	on-going
102	C	28 Construction of I-95 and Rt. 1 Northbound connector Peabody, MA	Massachusetts Dept. of Public 10 Park Plaza Boston, MA 02116	$ 600	on-going
102	P	29 Topographic and Boundary Surveys Southeastern, MA	Corps of Engineers 424 Trapelo Road Waltham, MA 02254	$ 80	1984
102	C	30 Highway Surveys Southeastern, ME	Maine Department of Transportation Augusta, ME	$ 75	1983

12. The foregoing is a statement of facts

Signature: Lirba M. Carrion

Typed Name and Title: Lirba M. Carrion, Marketing Manager

Date: August 1986

☆ U.S. GOVERNMENT PRINTING OFFICE : 1984 O - 421-526 (174)

STANDARD
FORM (SF)
254

Architect-Engineer and Related Services Questionnaire

Standard Form 254
General Services Administration,
Washington, D. C. 20405
Fed. Proc. Reg. (41 CFR) 1-16.803
Armed Svc. Proc.. Reg. 18-403

Asaf A. Qazilbash & Associates

CONSULTING ENGINEERS

120 Beacon Street, Hyde Park, Massachusetts, 02136
(617) 364-5361

DESCRIPTION OF FIRM

ASAF A. QAZILBASH & ASSOCIATES

Consulting Engineers

We are a small firm of highly qualified very experienced professional engineers. We provide consulting engineering services to a diverse group of clients, including contractors and other A/E firms, from planning through design and construction of projects. Our practice is generally in the following disciplines:

- Geotechnical Engineering
- Civil Engineering
- Construction Management & Quality Control
- Hazardous Wastes
- Structural and Bridge Engineering
- Hydraulics
- Hydrology & Groundwater
- Waterfront Facilities & Studies
- Drainage

The following additional supportive data is attached to this form:

- Experience Record, Types of Projects Successfully Handled (1 page)
- Experience Record, Transportation Projects (4 pages)
- Experience Record, List of Projects, Project Management (2 pages)

As of this date:	I certify that the foregoing is a true statement of facts.	
NAME OF FIRM Asaf A. Qazilbash & Associates	TYPE NAME AND TITLE OF PERSON SIGNING Mr. Asaf A. Qazilbash, President	SIGNATURE Asaf Ali Qazilbash

OMB Approval No. 29-R0234

STANDARD FORM (SF) 254
Architect-Engineer and Related Services Questionnaire

1. Firm Name / Business Address:
Asaf A. Qazilbash & Associates
120 Beacon Street
Hyde Park, MA 02136

1a. Submittal is for ☒ Parent Company ☐ Branch Office

2. Year Present Firm Established: 1984

3. Date Prepared: April 20, 1985

4. Type of Ownership:
4a. Minority Owned ☒ yes ☐ no
4b. Small Business

5. Name of Parent Company, if any: N/A

5a. Former Firm Name(s), if any, and Year(s) Established: N/A

6. Names of not more than Two Principals to Contact: Title / Telephone
1) Asaf Ali Qazilbash, P.E., President - (617) 364-5361
2)

7. Present Offices: City / State / Telephone / No. Personnel Each Office

120 Beacon Street
Hyde Park, MA 02136

(617) 364-5361

7a. Total Personnel 4

8. Personnel by Discipline:

1 Administrative
___ Architects
___ Chemical Engineers
*3 Civil Engineers
*2 Construction Inspectors
*1 Draftsmen
___ Ecologists
___ Economists
___ Electrical Engineers
*1 Estimators
1 Geologists
1 Hydrologists
___ Interior Designers
___ Landscape Architects
___ Mechanical Engineers
___ Mining Engineers
___ Oceanographers
___ Planners: Urban/Regional
___ Sanitary Engineers
2 Soils Engineers
*1 Specification Writers
2 Structural Engineers
___ Surveyors
___ Transportation Engineers

*Includes - as
Engineer

9. Summary of Professional Services Fees Received: (insert index number)

	Last 5 Years (most recent year first)				
	19 84	19 N/A	19 N/A	19 N/A	19 N/A
Direct Federal contract work, including overseas					
All other domestic work	1				
All other foreign work*					

*Firms interested in foreign work, but without such experience, check here: ☐.

Ranges of Professional Services Fees

1. Less than $100,000
2. $100,000 to $250,000
3. $250,000 to $500,000
4. $500,000 to $1 million
5. $1 million to $2 million
6. $2 million to $5 million
7. $5 million to $10 million
8. $10 million or greater

Standard Form 254 July 1975
Prescribed By GSA Fed. Proc. Reg (41 CFR) 1-16 803

10. Profile of Firm's Project Experience, Last 5 Years

Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)	Profile Code	Number of Projects	Total Gross Fees (in thousands)
1) 011	19	4 + I.E.	11) 087	6	5 + I.E.	21)		
2) 017	2	N/A I.E.	12) 095	3	1 + I.E.	22)		
3) 021	5	2 + I.E.	13) 097	50	8 + I.E.	23)		
4) 025	6	N/A I.E.	14) 101	20	2 + I.E.	24)		
5) 039	2	1 + I.E.	15) 104	13	N/A I.E.	25)		
6) 042	8	N/A I.E.	16) 106	12	2 + I.E.	26)		
7) 046	30	4 + I.E.	17) 109	8	N/A I.E.	27)		
8) 052	20	4 + I.E.	18) 114	20	3 + I.E.	28)		
9) 072	6	2 + I.E.	19)			29)		
10) 083	3	N/A I.E.	20)			30)		

11. Project Examples, Last 5 Years

Profile Code	"P", "C", "JV", or "IE"	Project Name and Location	Owner Name and Address	Cost of Work (in thousands)	Completion Date (Actual or Estimated)
024	IE	1 Charles River Dam, Pumping Station and Navigation Locks Boston, Massachusetts	U.S. Army Corps of Engineers New England Division Waltham, Massachusetts	38,000	1979
025	IE	2 Water Impoundment Earthen Dam Waynesville, North Carolina	City of Waynesville, North Carolina	5,000	1981
025	IE	3 Amelia Earhart Dam, Pumping Station and Navigation Locks Somerville-Everett, Massachusetts	Metropolitan District Commission Boston, Massachusetts	17,000	1978
042	IE	4 Massport Marine Terminal Naval Annex South Boston, Massachusetts	Massachusetts Port Authority Boston, Massachusetts	40,000	1986
052	IE	5 Maintenance and Repair Facilities Metropolitan Transit Authority San Juan, Puerto Rico	Metropolitan Transit Authority San Juan, Puerto Rico	12,000	1979
087	IE	6 Northeast Corridor Bridge and Track Improvements New Haven to Guilford, CT	Federal Railroad Authority Washington, D.C.	30,000	1980
097	IE	7 Foundation Studies and Report I-190 Worcester-Sterling, MA	Massachusetts Dept. of Public Works, Boston, Massachusetts	N/A	1979

097	IE	Massachusetts	Massachusetts Dept. of Environmental Quality, Boston, MA	N/A	1981
101	IE	9 Shore Protection Scituate, Massachusetts	Town of Scituate, Massachusetts	2,500	1980
104	IE	10 323 MGD Storm Detention & Chlorination System Boston, Massachusetts	Metropolitan District Commission Boston, Massachusetts	16,000	1980
109	IE	11 Red Line Extension Cambridge, Massachusetts	Massachusetts Bay Transportation Authority, Boston, Massachusetts	110,000	1984
033	IE	12 Relocated Route 25 Wareham to Bourne, Massachusetts	Massachusetts Dept. of Public Works, Boston, Massachusetts	15,000	1983
087	IE	13 Northeast Corridor Improvement New Haven to Guilford, CT	DeLeuw Cather Parsons & Assocs. Washington, D.C.	30,000	1981
087	IE	14 Orange Line Extension Boston-Needham, Massachusetts	Massachusetts Bay Transportation Authority, Boston, Massachusetts	40,000	1982
110	IE	15 South End Urban Renewal Boston, Massachusetts	Boston Redevelopment Authority	20,000	on-going
096	IE	16 Secondary Sewage Treatment Plant, Pumping Station and Sewer System, Fall River, MA	City of Fall River, Massachusetts	31,000	1982
096	IE	17 Sewer System Reconstruction and Extension, Waltham, Massachusetts	City of Waltham, Massachusetts	11,000	1981
096	IE	18 Sanitary Sewer and Pumping Stations, Salem, Massachusetts	City of Salem, Salem, MA	11,000	1983
114	IE	19 Well Field Development Pumping Station, Water Storage Tank, Franklin, Massachusetts	Town of Franklin, Massachusetts	3,500	1979

Affirmative Action Policy

AFFIRMATIVE ACTION

Hayden-Wegman is an Equal Opportunity Employer with a formal Affirmative Action Policy, as presented on the following pages.

We are committed to carrying out this policy in terms of both in-house staff and the participation of MBE and WBE subconsultants.

In-House Staff

With one quarter of the Boston Office staff residing in the City of Boston, the following chart presents the female and minority make-up of the firm as a whole:

	OFFICERS/ MANAGERS	PROFESSIONALS	DRAFTERS/ TECHNICIANS	OFFICE/ CLERICAL	TOTAL
Total Employees	7 (1)	101 (6)	62 (3)	21 (3)	191 (50)
Females	0	13 (1)	8 (1)	17 (3)	38
% of Total	0%	13%	13%	81%	20%
Minorities	0	14	12 (1)	7*	33*
% of Total	0	14%	19%	33%	17%
Combined % of Total	0%	27%	32%	90%	37%

* includes 5 minority females

( ) Boston Residents

Subconsultants

The majority of our projects include MBE and/or WBE subconsultants. Recent examples include:

- ASEC Corporation (MBE) - Surveying
    - Reconstruction of seven streets, City of Newton
    - Fox Point/Commercial Point CSO Facility, MWRA
    - Constitution Beach CSO Facilty, MWRA
    - Hoosac Pier Rehabilitation, MASSPORT
    - Commonwealth Pier Rehabilitation, MASSPORT
    - Sewer System Rehabilitation, City of Revere
    - CSO No. 9, City of Providence
- Bryant Associates (MBE) - Surveying
    - Emergency Bridge Inspection Program, Connecticut DOT

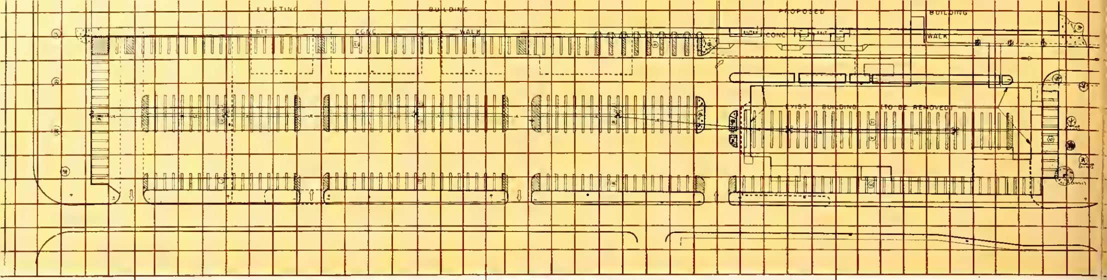
- SZK and Company (MBE) - Engineers and Planners
    - Hydraulics for various Connecticut projects
- Reynolds Jurow Associates (WBE) - Public Participation
    - Fox Point/Commercial Point CSO Facility, MWRA
    - Constitution Beach CSO Facility, MWRA
- Schoenfield Associates (WBE) - Surveying
    - Emergency Bridge Inspection Program, Connecticut DOT
- Mistry Associates (MBE) - Structural Engineering
    - Inspection and Rating of 16 Bridges, MBTA
- Carol R. Johnson & Associates (WBE) - Landscape Architecture
    - Lynn Heritage State Park, City of Lynn
- Bristol County Blueprint Company (WBE) - Printing
    - Constitution Beach CSO Facility, MWRA
    - Sewer System Rehabilitation, City of Revere

GOOD but
lacks specific
Navy yard
experience

Ⓐ

SITE/CIVIL ENGINEERING

LEA GROUP



Top Photo: For the Seekonk, Massachusetts location of Ann & Hope stores, full site and civil services were provided for the ingress/egress, parking, lighting and landscaping in conjunction with store design.
Bottom Photo: Maximum usage and attractive landscaping on a difficult site was the result of LEA's design for Aetna Insurance in Fall River.

Top Photo: A total rehabilitation by LEA turned Tenny Park in Methuen, Massachusetts into an ideal gathering spot for neighborhood children.
Bottom Photo: The largest surface parking facility in Boston was engineered for the U.S. Postal Service at their South Postal facility.

Today every building project under consideration raises key questions: land usage, environmental impact and community involvement to name a few. The answers to these questions demand more than comprehensive and creative engineering and design solutions. Experience and familiarity in dealing with the complex and continually changing governmental environment is a critical and necessary requirement for any successful project.

CAPABILITIES AND ACCOMPLISHMENTS

Our Site/Civil Engineering Division has comprehensive in-house capabilities to furnish conceptual and master planning, feasibility studies, surveying, hydrology and site design including civil engineering, landscape architecture, and infrastructure design for roadways, sewers, utilities and drainage. We also offer full environmental and conservation expertise to help a client meet applicable governmental regulations for wetlands protection. Additionally, the LEA Group enjoys a distinction in our field for having a staff of both *registered* land surveyors and landscape architects supported by our registered engineers.

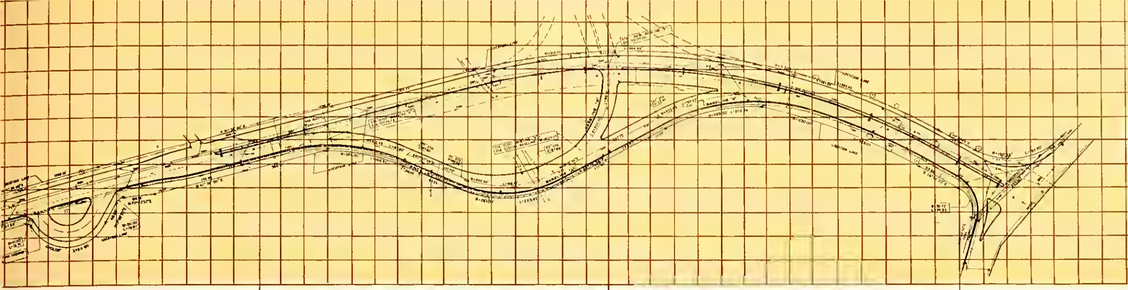
Cover Photo: The 300-acre site for Centennial Industrial Park in Peabody has been transformed from marginal land into a fully committed high tech industrial park.

Our Site and Civil Engineers have completed a variety of projects for architects, developers, private industry
government. Our proje
have included shoppin
ters, industrial parks an
corporate office compl
parking facilities, recre
and athletic facilities, r
ways and multi-unit ho
projects. Whether the
require site design, sur
hydrology and storm c
systems; involve wetla
tection, conservation c
sion compliance or coa
zone management; or
demand a way to conv
a marginal piece of pro
into a viable, profitable
the LEA Group can me
challenges with innov
technical knowledge a
very practical experie

Arsenal Marketplace, the $
lion conversion/renovatio
Watertown Arsenal, was to
engineered by LEA with ad
responsibilities for the adj
municipal street reconstru

PERMITTING
KNOW-HOW MA
THE DIFFEREN

Making headway throu
the governmental gran
approval process can b
trating and painstaking
experience. It is an are
"knowing how" makes



ference. Our longtime nce with the approval from beginning to ıbles us to minimize the delay at the critical ages of a proposed . Our grantsmanship can be invaluable in ng desirable funding Urban Development Grants (UDAG) or al Revenue Bond (IRB). itting and approval can g and costly process ormal circumstances. help a client obtain all permits for munici- e and federal agencies ximum efficiency, nd minimum red tape.

E SINGLE SOURCE ROFESSIONALS

our clients come to Group because we ngle source for both management and tech- vices. This translates ıble, solid decision- ınd a significant n time and money. roject Manager, ıble for project coor- and implementation, the liaison between t and the engineering personnel. This single source of contact facilitates communication and insures an efficient and effective completion of all site and civil work, in accordance with the client's needs and the project plans.

Brandeis University's master campus site plan was originally created by LEA with the university's architect.

Technical considerations often develop that require engineering expertise beyond site and civil. We have all the resources, in-house, to solve any engineering or design problem from the simplest to the most complex. Because we have nearly 100 professional and technical support personnel, we can provide the range of disciplines and services required to meet these increasingly challenging and demanding situations. Our technical and management expertise is highly refined and our professionalism and quality of work is evident at every level. We offer our services as a completely integrated package or individually on an "as needed" basis. We are large enough to provide the in-house capabilities to execute every building requirement ranging from conceptual design to detailed design and construction management. In short, as a single source for all engineering services, we can respond quickly to the requirement for technical expertise outside of the site and civil engineering discipline, as always streamlining the process and saving time and money for our clients.

Top Photo: For State Properties of New England's Arboretum Condominium project in Peabody, LEA provided full site design and engineering services.
Bottom Photo: At Prime Computer's corporate world headquarters in Natick, the 35-acre site development was engineered by LEA including three multi-level parking areas with all related infrastructure.

INNOVATION AND ATTENTION

Innovative engineering skills are balanced by proven project management techniques to give us an unusually high degree of project organization, technical competence and experience. We continually refine our working relationship with our clients; and our design teams are always responsive to their changing needs. This has made our track record of maintaining a very high percentage of repeat clientele over the past 60 years an impressive one. And it is, perhaps, the most compelling statement about building your own relationship with us.

LEA
GROUP

Engineers/Architects/Planners
75 Kneeland Street, Boston, Massachusetts 02111
Telephone (617) 426-6300

New York office: 531 East 84th Street,
Room 2A, New York, N.Y. 10028
Telephone (212) 509-1922

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LEA
GROUP
INCORPORATED

75 Kneeland Street, Boston, Massachusetts 02111
Telephone (617) 426-6300

REPRESENTATIVE CLIENTS

American Science & Engineering
Amstar
Angelo's Super Markets
Ann & Hope Stores
Arsenal Marketplace Mall
AVCO
Babson College
Balzers
Bank of Boston
The Beal Companies
Belmont Springs Water Company
Big Y Stores
Boston Tennis Club
Boylston Properties
Brandeis University
Burger King
Cabot Cabot & Forbes
Children's Medical Center
The Coca-Cola Company
Coldwater Seafood Corporation
Cole Hersee Company
Computervision Corporation
CVS
Dartmouth College
Digital Equipment Corporation
The Druker Company
Eastern Airlines
Exxon Research & Engineering
Federated Department Stores
Finard & Company
First National Stores
Fishery Products
The Foxboro Company
Fram Corporation
Fruehauf Corporation
Giant Food Stores
The Glimcher Company
The Great Atlantic & Pacific Tea Company
Grossman's (Division of Evans Products)
H.P. Hood
Hadco Corporation
Hamady Brothers
John Hancock Mutual Insurance Company
Harvard Community Health Plan
Harvard University
Gerald Hines Development, Boston
Honeywell Information Systems
Howard Johnson's Company
Hunneman & Company
ITT Surprenant Division
Ken's Foods
Kmart
Lechmere (Dayton Hudson)
Leggat McCall & Werner
Lipton Pet Foods
Marathon Realty Trust
Marshalls Department Store
Massachusetts Institute of Technology
Massachusetts Eye & Ear Infirmary
Mitre Corporation
The Mugar Group
Net Properties Management
New England Telephone
Newlyweds Foods
Northeastern University
Northland Investment Corporation
Noymer Manufacturing Company
Ocean Spray Cranberries
Osco Drug
Polaroid
Princeton University
Purity Supreme
S. B. Thomas (Sahara Bakery)
Star Market
State Properties of New England
Stavis Seafoods
Stonehill College
The Stop & Shop Companies
The Stride-Rite Corporation
Suffolk Downs
Tufts University
United Parcel Service
U. S. Air Force
U. S. Army
U. S. Navy
U. S. Postal Service
United States Trust Company
Vulcan Rubber
Wang Laboratories
Winthrop Financial
WNEV (Channel 7)
WQTV (Channel 68)
Zayre Corporation

LEA
GROUP
INCORPORATED
ENGINEERS, ARCHITECTS, PLANNERS

lew Horizons In Land Resource Management
BSC
The BSC Group

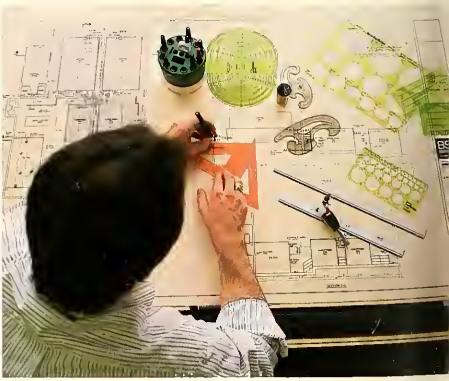
Integrated Approach To Land Use

Today, there is heightened awareness worldwide that land us decisions have complex, far reaching consequences. There is also growing appreciation that we must intelligently manage natural, technological and human resources in order to safegu our environment and ensure the quality of life for future generations.

Since our founding in 1965 as Boston Survey Consultants, The BSC Group has evolved into a full service land resource management and design firm that employs an interdisciplinar team approach on project assignments. Project teams are comprised of environmental scientists, engineers, architects, planners, and surveyors. Our specialists are committed to developing information, options, and strategies that enable our clients to make informed, responsible land use decisions.

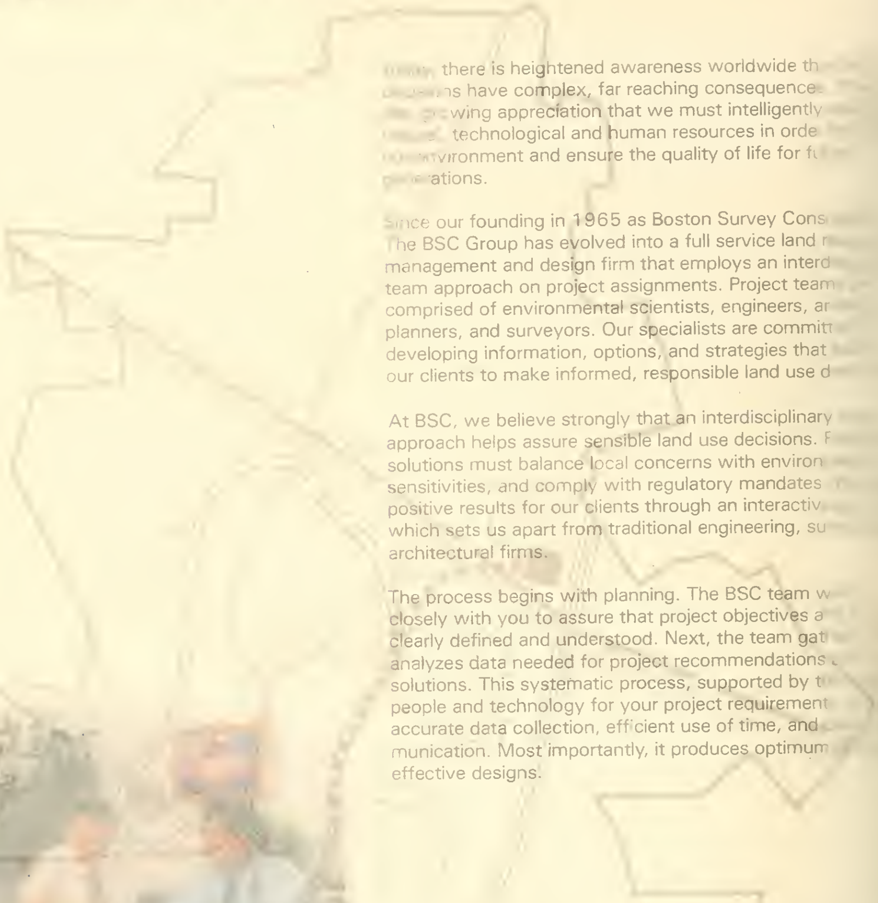
At BSC, we believe strongly that an interdisciplinary team approach helps assure sensible land use decisions. Farsighte solutions must balance local concerns with environmental sensitivities, and comply with regulatory mandates. We achie positive results for our clients through an interactive process which sets us apart from traditional engineering, surveying or architectural firms.

The process begins with planning. The BSC team works closely with you to assure that project objectives and scope clearly defined and understood. Next, the team gathers and analyzes data needed for project recommendations and desig solutions. This systematic process, supported by the right mi people and technology for your project requirements, promot accurate data collection, efficient use of time, and clear communication. Most importantly, it produces optimum solutions effective designs.



BSC Group combines professional experience and technical
rtise with a profound respect for the environment to produce
ble solutions for complex land resource management challenges.

Integrated Approach to Land Use



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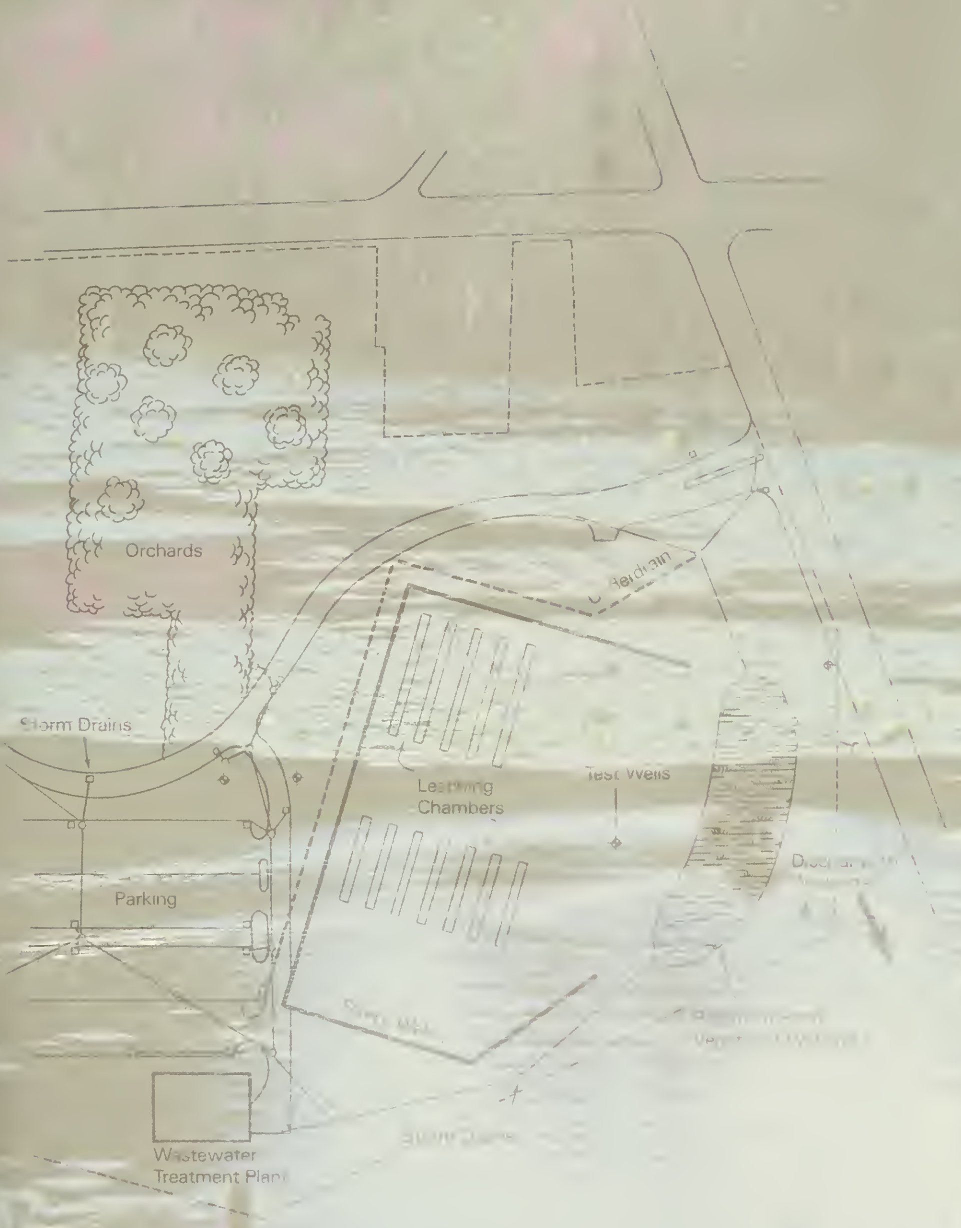
Engineering Strength Is Built On The Right Mix Of People And Technology

The distinctive flexibility and client focus of our interdisciplin y teams separates The BSC Group from conventional enginee g and architectural firms. For example, our engineers and environmental scientists work together to provide engineerir information for sewers, wastewater collection and treatmen ar other water resource management projects. Our geologists a d hydrogeologists collect the data and perform the analyses w ch are the basis for environmentally sound design solutions.

BSC engineers develop site plans for residential subdivisions commercial and industrial development projects, and institut na facilities. In cooperation with our planners, scientists and landscape architects, our engineers ensure that final designs maximize your project's development potential. The team al prepares strategies and recommendations for compliance w current federal, state and local environmental regulations, ar assists you with necessary permitting procedures.

BSC project teams use a wide range of technology and support tools. For example, highly sophisticated Computer Aided Design and Drafting (CADD) systems support multipl workstations. In addition to two- or three-dimensional drawi s and schematics, the CADD systems are used for topograph al mapping, digital terrain and environmental resource modelin The automation of maps, designs and other vital land inform tio facilitates timely data analysis and design change.

Today, BSC is applying available geographic information sys m technology in a rapidly evolving land information systems n n-agement environment. Through these information managen nt systems, decision makers at all levels of society can obtain gh quality data, and more cost-effective and meaningful answe to complex land use problems.



BSC scientists collaborate with engineers to assess the environmental impact of proposed land development or changes to the infrastructure.

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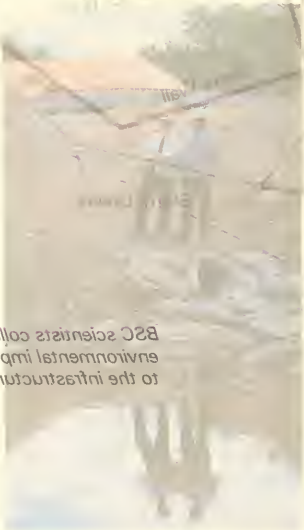
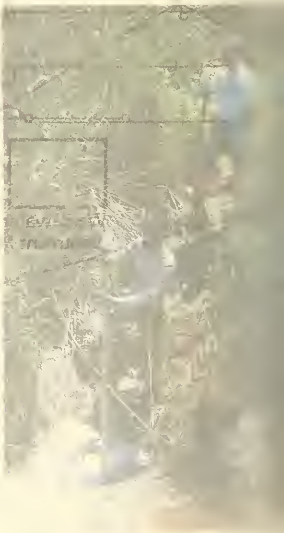
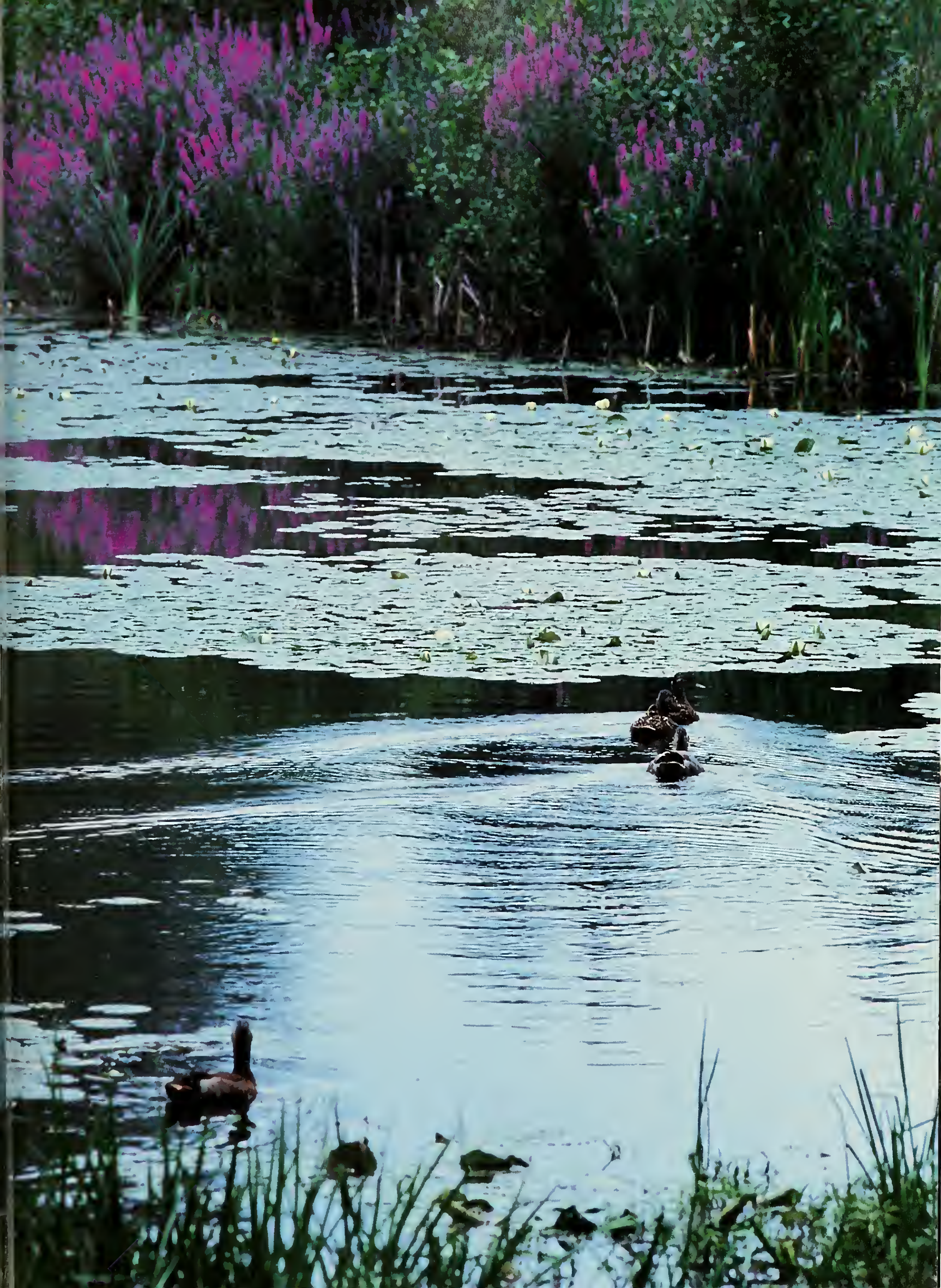






Timely, Accurate Surveying And Mapping: The Cornerstone Of Effective Design

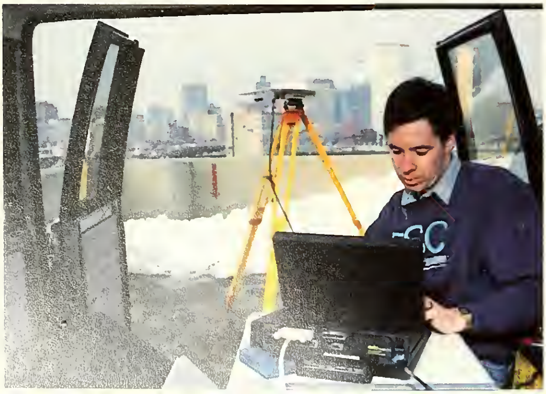
The long term success of project planning, engineering and design is dependent on the timeliness and accuracy of the dat from which the designs are developed. The more complete the information available to planners and designers, the more sens they can be to the environmental impact. This holds true whet the project encompasses urban, suburban or wilderness environments.

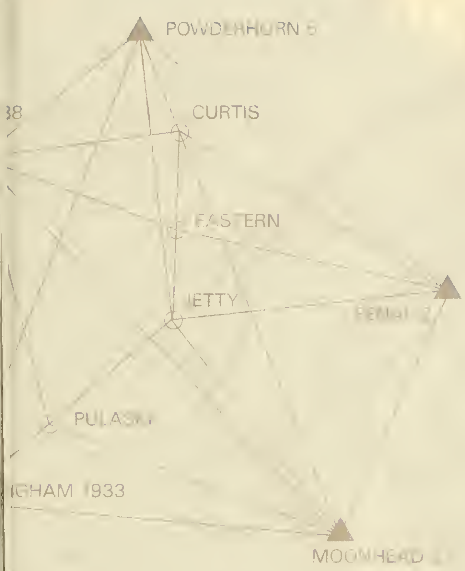
BSC is a recognized leader in the surveying field, offering an unsurpassed combination of technical expertise, state-of-the-a surveying and mapping techniques, and advanced electronic equipment. Data from our surveying and mapping operation, integrated with data and recommendations from our environmental scientists, establishes a solid base for informed decisio making.

Our technical expertise is built on the premise that surveying and mapping is a profession, and our staff is comprised of the most experienced and academically qualified people, including many with advanced surveying engineering degrees.

At BSC, we have the resources for construction, topographical and conventional boundary surveys. We also have the in-house capability, using Global Positioning System (GPS) surveying, to perform complex geodetic surveys. With conventional high precision survey techniques, we perform deformation analysis of dams, bridges, buildings and other lar structures. Our team of skilled professionals can assist with th development of comprehensive land information systems for utility companies, federal and state agencies, and municipal governments.

Our surveying and mapping teams utilize sophisticated electronic measuring and automatic data collection equipment The integration of automatic data collection with our CADD system facilitates the efficient flow of data for analysis, mappi engineering and design activities. As a result, we can provide services our clients need on a more efficient basis . . . and hel them eliminate costly delays.





GPS Survey Network–

Differential GPS surveying is a highly cost-effective alternative when used for determining positions in congested urban environments, rugged terrain, and other areas where conventional terrestrial surveying is both logistically difficult and extremely costly.

BSC utilizes digital mapping and surveying techniques which consider both current and future design needs.

Timely, Accurate Surveying And Mapping: The Cornerstone Of Effective Design

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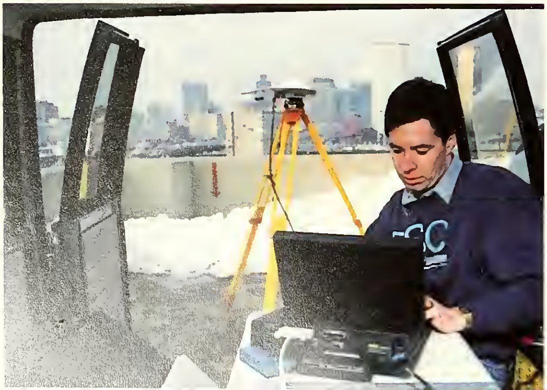

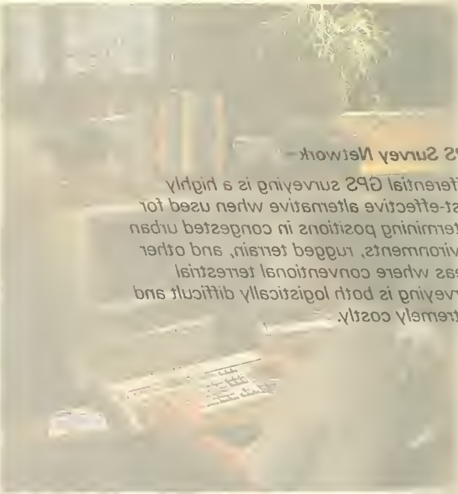

BSC utilizes digital mapping and surveying techniques which consider both current and future design needs.

Designing Solutions With Tomorrow in Mind

As the technology of the Information Age pushes us from an industrial society to an information society, our goal at The BS Group is to help clients respond proactively to change. The fu land economy system will define society's relationship to the in terms of legal rights, most meaningful use, and preservatio the Earth's vital resources in both the natural and built environments.

We accept the challenge the future holds by constantly striving to extend our knowledge and capabilities. We are dedicated to professional excellence that promotes the most effective use of resources. Because of our thorough understa of the interactions between the natural and man-made forces work today, we are in a better position to provide practical, lo term solutions for our clients.

In these rapidly changing times, The BSC Group is reaching beyond the limitations of traditional attitudes and techniques create new horizons in land resource management.

"Our vision at BSC includes a strong commitment to managing natural, technological and human resources for the mutual benefit of mankind. As a society, we must be caretakers of our Earth, dedicated to preserving and enhancing our environment for future generations."

Fritz Petersohn

—Fritz K.A. Petersohn, PLS
Founder and Chairman
The BSC Group

BSC

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For more information concerning The BSC Group land resource management and design services, contact the Vice President of Marketing.
Call toll free: (800) 288-8123

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